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THE REPORT OF THE

Royal Commission on Electric Power Planning

Chairman: Arthur Porter

VOLUME 8

Decision-Making, Regulation, and Public Participation: A Framework for Electric Power Planning in Ontario for the 1980s

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Chairman: Arthur Porter

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The Report of the Royal Commission on Electric Power Planning is comprised of the following volumes:

Volume 1: Concepts, Conclusions, and Recommendations

Volume 2: The Electric Power System in Ontario

Volume 3: Factors Affecting the Demand for Electricity in Ontario

Volume 4: Energy Supply and Technology for Ontario

Volume 5: Economic Considerations in the Planning of Electric Power in Ontario

Volume 6: Environmental and Health Implications of Electric Energy in Ontario

Volume 7: The Socio-Economic and Land-Use Impacts of Electric Power in Ontario

Volume 8: Decision-Making, Regulation, and Public Participation: A Framework for Electric Power Planning in Ontario for the 1980s

Volume 9: A Bibliography to the Report

VOLUME 8

Decision-Making, Regulation, and Public Participation: A Framework for Electric Power Planning in Ontario for the 1980s

Ronald C. Smith

The Author

RONALD C. SMITH was the Executive Director of the Royal Commission on Electric Power Planning. He holds a B.A. degree in business administration from the University of Western Ontario and an M.B.A. in business from York University. In the early 1970s, he was a member of the team that carried out the research and prepared the report on the structure of government for the Committee on Government Productivity. From this report emerged the present organization of the Ontario government. Since 1972, he has been a partner in the consulting firm Smith-Auld & Associates Ltd. where his work has been primarily oriented to policy planning, organizational development, and governmental decision-making.

Author's Acknowledgements

The author is indebted to R.B. Risk, professor of law at the University of Toronto Law School, who devoted many hours to the preparation and review of background material for this volume. Special thanks are also extended to Gail Randall for research on public participation, to Catherine Hunt for the preparation of background material on energy education, to Hugh Auld, Harry Meredith, and Penny Evans, whose insight proved invaluable during numerous review discussions, and to Roni Eigles for her administrative support.

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Foreword

The Commission wishes to acknowledge the contributions to our Report made by the author of this volume. The enormity of the task as well as the skill and tenacity with which it was performed are testimony to the talents of Ronald C. Smith. Our work would have been immeasurably more difficult without his assistance.

This volume, *Decision-Making, Regulation, and Public Participation: A Framework for Electric Power Planning in Ontario for the 1980s*, focuses on a key issue area raised by the public during the Commission's public hearings process. The analysis, conclusions, and recommendations reflect data received by the Commission in the form of public testimony and exhibits, consultants' reports, and independent research and analysis by the author. We have relied heavily on this work in formulating our own conclusions and recommendations in Volume 1. However, the views expressed in this volume are ultimately the responsibility of the author. This document is therefore best viewed as a background paper which attempts to draw together the detailed evidence and analysis available on this complex subject, in a fashion which will be of use to the general public as well as to the technical community.

The research and evolution of this document were directed and reviewed for the Commission by Philip A. Lapp and Peter G. Mueller.

Arthur Porter, Chairman.

Executive Summary

This volume is about the institutions and procedures for making decisions about electric power planning in Ontario.

The decisions that must be made about Ontario's electric power system are extremely diverse. For the purpose of this summary, they may be considered as: decisions about the need for facilities; decisions about the general nature of the system for generating and transmitting electric power; decisions about the impact of the facilities on the environment; decisions about locating the facilities; and decisions about financing the system.

There are two major characteristics of the foregoing decisions that are important for the design of institutions and procedures. First, they all can be made either in general terms, as general policy, or in connection with individual facilities or groups of facilities. Second, and this is the dominant theme throughout the volume, the decisions are all interdependent.

Decisions about the planning of the power system must be considered not only in the Ontario context but also in a world context characterized by change, uncertainty, and complexity. To make this evaluation and to set a framework for consideration of future institutions and procedures, six principles are presented:

- General energy policies must be made, and to be effective they must be comprehensive.
- Government must be responsible for general policy.
- Institutions and procedures for making energy decisions must accommodate change and diversity.
- Institutions and procedures must encourage innovation.
- Institutions and procedures must minimize delay and must present decisions in a rational order.
- Institutions and procedures must be open, and they must permit and encourage public participation.

It is the conclusion in this volume that the institutions and procedures for electric power planning in Ontario are not open, are not integrated, and do not constitute a comprehensive general planning process.

Some efforts have been made by Ontario Hydro and the Ministry of Energy to accommodate some of the foregoing principles, in particular, the need for access to understandable information, the need to involve citizens in project planning, and the need to integrate consideration of the various energy supply systems; but the present arrangements do not accommodate all of the participants in an integrated and comprehensive process that moves from general planning concepts through to final decisions on implementation and operations.

The arrangements for making decisions about individual facilities are unnecessarily complex, overlapping, and unco-ordinated. This is not the fault of any one organization or piece of legislation. Nor is it due to the absence of a "master" plan for the province. Instead, it is caused by the growth of scale and a desire to service the people of Ontario with a large reliable power system that inevitably will impact in some manner on every citizen of the province. Legislation and institutions that were appropriate for considering the development of the power system on a facility-by-facility basis are no longer satisfactory for considering the development of the system on a massive system-wide basis, while at the same time providing adequate opportunity for the evaluation of alternative forms of energy supply and systems to manage the growth in demand.

Difficulties also arise because the considerations of individual facilities are not made in an open manner, and not related effectively to general policy.

Today the challenge is to develop institutions and processes that can operate in the context of complexity, change, and uncertainty, and at the same time be responsive to social interests. Today, more than ever, with rapidly rising fuel costs, uncertainty about fuel availability, and increased use of complex technology, and, most critically, in view of the importance of a reliable energy supply to the economy of the province of Ontario, it is essential to provide for a rational development of Ontario's power system. However, since it is difficult to define with precision the nature of the issues that will face Ontario Hydro, the Ontario government, and the citizens, it is essential that the decision process be open and responsive.

A conclusion of this volume is that, even given the planning difficulties of the early 1970s, there is still a

need to plan and to have Ontario Hydro and other utilities plan. However, Ontario Hydro should no longer make the primary planning decisions but should contribute to the planning process, should make proposals, and should implement changes within approved policy. The planning process should be characterized by participation by the public and by government, but, ultimately, government must be responsible for policies regarding the development of the power system. But government will require assistance in considering alternatives as they relate to general policy and to the highly interactive decisions with respect to specific projects. This assistance can best be provided by assigning the advisory, review, and regulatory functions to a single agency. After giving consideration to the existing institutions, two major possibilities emerged – the Environmental Assessment Board (EAB) and the Ontario Energy Board (OEB). Further evaluation led to the conclusion that the OEB is the most attractive, but substantial changes to its procedures would be required to achieve the principles outlined earlier, particularly openness and public participation.

It is proposed that the OEB be renamed the Ontario Energy Commission. Its status should be enhanced, its staff should be slightly enlarged to allow for comprehensive consideration of both general policy and specific projects, and its responsibilities should provide for a "one-window" approach to the regulation of electric power planning in Ontario. This means the Ontario Energy Commission would perform the tasks previously carried out or intended to be carried out by the EAB, the OEB, specially appointed commissions and committees, and inquiry officers under other legislation such as the Expropriations Act.

The Ontario Energy Commission would provide an open institution for public review of demand forecasts and for recommending general policy on the development of the power system.

Consideration of electricity demand scenarios should contain the following elements:

(a) total energy growth rate forecasts
(b) the potential penetration of renewable energy forms
(c) an electricity demand model
(d) constraints on supplies of oil, gas, and the use of coal
(e) conservation targets
(f) other general constraints that could influence demand for and supply of electrical energy, including Hydro's borrowing limits

The proposed commission analysis of the demand forecast and the resulting needs analysis should be applied both to general policy and to specific project evaluation.

As for general policy, the proposed commission should conduct a periodic review leading to a major, comprehensive report to be used as a central working document by all involved in energy planning, every five years. The review would highlight the demand forecast and needs analysis. It would provide a basis for general policy direction by the government which, in turn, would provide the framework for evaluating specific projects between reviews. The review should take into account regional growth and development, environmental factors, economic factors, and conservation considerations.

The review of need should reflect the proposed commission's view on criteria for new facilities over the planning period, inadequacies of the existing system, inter-fuel substitution, and interconnections including energy exports and imports. Such criteria should signal the expected size and shape of the electric power system over the next five years, and alternative scenarios of more constrained growth.

The review should assess electric and non-electric technologies, particularly alternatives, and should thus make recommendations for the support of research and development. Each technology, including conservation technologies, should be examined thoroughly, including related economics.

The review should cover environmental implications and means of mitigating adverse effects, including trade-offs. The proposed commission's position on land use and siting in environmentally sensitive areas would be of great value to the government and could shorten lead times. The review should show prospective sites and alternatives.

While the reviews will not determine the nature and timing of individual facilities, they will provide the context of general policy with proposals and alternatives. The reviews would result in recommendations to the government and ultimately to the Legislature through the Minister of Energy. Government policy resulting from the reviews would permit Hydro and other utilities to proceed with final planning and pave the way for specific projects.

While five years is a reasonable interval between reviews, the proposed commission should undertake special issues studies as identified by the government and/or the proposed commission.

Decisions on individual facilities would be made within the context of general policy, but there is the likelihood that individual facility decisions will have a feedback effect on general policy.

The open, single-window approach to the review by an individual facility overcomes many of the shortcomings of the present system. To bring the appropriate expertise to bear on matters related to environmental assessment and municipal planning, cross-appointments could be made to the proposed commission from the Environmental Assessment Board, government ministries, appropriate municipal bodies, and/or interested citizens.

All hearings related to electric power developments, whether they are environmental or related to specific siting and routing decisions, should take place in the name of the proposed commission. Even in areas where regional hearings would involve principally local residents, a member of the proposed commission should be present and the hearings board should be a "panel" of this proposed commission. Members could be appointed inquiry officers under the Expropriations Act.

Hearings on specific facilities should result in approval or disapproval by the proposed commission. Government acceptance or rejection of the proposed commission's position should be in writing, thus clearly signalling government's responsibility.

For rate-setting, the same principles would apply as for siting and routing. The proposed commission, with its wider view would be appropriate for conducting rate hearings, and for setting rates that would reflect future plans. Again, government's written acceptance or rejection would signal that the final decision rests with it.

CHAPTER ONE

Introduction

"The essence of ultimate decision remains impenetrable to the observer – often, indeed, to the decider himself ... there will always be dark and tangled stretches in the decision-making process – mysterious even to those who may be most intimately involved."[1]

This volume concerns the institutions and procedures for making decisions about electric power planning in Ontario. It is the result of an interest that was first apparent in the Commission's early public meetings and continued to reappear throughout the other two phases – the information hearings, and the debate hearings. This topic was not expressly included in the original Terms of Reference. However, the government encouraged the Commission to hold preliminary meetings to determine more clearly the issues of principal concern. All the participants – the citizens, the public interest groups, the major power users, the ministries, and Ontario Hydro – expressed belief that the topic was important and should be included.[2]

The Commission concluded that these expressions of interest and concern were well founded, and it made the question of institutions and procedures one of the eight major topics for consideration during its final debate hearings. As the hearings proceeded, the importance of the topic became more apparent. The history and literature of law and government show that the structure of institutions and procedures can shape understandings, perceptions of issues, and results, and can influence the acceptability of the results. The evidence given at the hearings demonstrated that electric power planning is far from being an exception to this general experience. For example, evidence was given of misunderstandings, delays, confusion, uncertainty about policy, and lack of opportunities for participation.[3]

Many studies have already been made of certain aspects of this topic, and these studies are useful, but the Commission can make a distinctive contribution, for two reasons. First, its terms of reference and its own general approach commanded a comprehensive and long-range perspective, which no other studies have had. Second, crucial changes in the context for decision-making have come about since most of these studies were done, and these changes have been such that a fundamental difference of attitude is now needed.

The Commission conducted an extensive review of the existing institutions, procedures, and participants that compose the process of making decisions about electric power planning in Ontario. It also conducted research into electric power planning processes in other jurisdictions.[4] Briefs were invited from government ministries, Ontario Hydro, and the public. During the information hearings, decision-making and public participation were major themes in nine submissions from Hydro, eight from government ministries, and 13 from groups and individuals, and these submissions led to 237 transcript references. The Commission prepared an issue paper, "The Decision-Making Framework and Public Participation", and a complementary research paper, "Decision-Making Structures and Processes in Electric Power Planning in Ontario", using information from the submissions. With these documents as a focus for discussion, the Commission employed a variety of procedures in its final debate phase. Informality was encouraged. A workshop involving over 50 diverse participants and a number of seminars were held. In addition to these informal undertakings, there were 80 hours of hearings in which 33 briefs were received and examined. This volume presents the information and ideas gathered by the Commission in these proceedings, as well as conclusions and recommendations.

During the course of its inquiry, the Commission was asked by the government to prepare an interim report on nuclear power. This report – *A Race Against Time* – was released in September 1978. It contains discussion and conclusions about institutions and procedures, and particularly about issues and themes that are peculiar to nuclear power, such as jurisdictional uncertainty, the regulation of complex technology, access to information, public participation, and the regulation of health, the environment, safety, and security. Most of the general issues of decision-making and regulation relating to nuclear power are common to the whole field of electric energy, and the reader should therefore review the conclusions of the interim report, which are described in Appendix A.

The Decisions

The decisions that must be made about the nature of Ontario's electric power system are extremely diverse. Some are broad and fundamental to our society, for example, decisions about the use of complex and centralized technology, and some concern details about locations or rates; some are largely technical, and some are about social choices; some should be made by the Legislature, some by the Cabinet, and some by appointed officials. The sheer number is vast, and the diversity of issues is great, making for a bewildering tangle. The evidence given at the hearings suggested that the participants often cannot see a pattern to this tangle or a clear route through the decision-making process.[5]

These decisions will be examined in several ways in this volume. For the purpose of introducing and describing them, they may be arranged in four groups:

1. Decisions about general policy; for example, decisions about how much electricity is needed, and what will be the nature of the facilities for generation and transmission, and the general principles for financing the system.
2. Decisions about individual facilities; for example, decisions as to whether a proposed generating plant or transmission line is needed, and about its design and location.
3. Decisions about the impact the facilities will have on the environment, which in turn will have a significant influence on the decision relating to the siting of facilities.
4. Decisions about financing the system, particularly about Ontario Hydro's borrowing, and the rates consumers are charged.

The Context for Power Planning

Decisions about Ontario's power system have had to be made throughout the 20th century, but the context for making them has changed continually. Despite these changes, certain elements of electricity decision-making in the province are of long standing and are likely to continue to exist, and must therefore be considered in the designing of future institutions and procedures. Ontario Hydro is the most visible element of this decision-making process. This huge public corporation, whose assets have grown by more than 350 per cent in the last 10 years, to $13.2 billion in December 1978, dominates electric power supply in the province. Some important but smaller utilities exist, and some industries generate their own power, but these sources are local, and account for only about 2 per cent of the electric energy consumed in the province.[6] In contrast, the presence of Ontario Hydro, with an operational area extending approximately 1,610 km (1,000 miles) from east to west and covering about 647,500 km^2 (250,000 square miles), is felt by virtually every citizen in Ontario.

The utilization of major, highly advanced technologies has been a cornerstone of Ontario Hydro's engineering achievements, but this has resulted in a decline in the use of small local generating stations and an increased reaction from sections of the public opposed to such centralized development. Originally, its generation supply was based on the use of water power, but during the last three decades it has become Canada's largest user of thermal generation, particularly nuclear power, a technology over which there is a deep polarization of opinion, especially as the debate has shifted increasingly from questions of fact to values. The transmission of energy to the principal areas of use has required the planning and construction of hundreds of miles of high-voltage (500 kV) transmission lines throughout the province.

As the system expanded over time, so did Ontario Hydro and its economic and political influence. To many persons, viewing it from the outside, it became more remote, less human, and less sensitive to the needs of the people of Ontario.[7] Its very size made it subject to inertia and slow to respond to change. The perceived lack of responsiveness to societal change created an impression of indifference to the wishes of the people of Ontario. The massive and pervasive presence of Hydro has focused attention on decisions about the electric power system, as individuals and groups have come to realize that these decisions are political and will have a large and continuing impact on utility rates, provincial development, environmental quality, financial stability, and the socio-economic climate of the province. This realization has led to a questioning and challenging of the planning concepts of Ontario Hydro and its proposed projects. The use of advanced technologies, particularly in nuclear power and high-voltage transmission, has also led to a questioning of jurisdictional authority and a call for greater citizen involvement in the decision-making process.

More generally, beyond Ontario Hydro itself, the larger context in which decisions must be made is

changing, uncertain, and complex. This context was described by the Ontario Ministry of the Environment in its final brief to the Commission, which stated:

> Ontario Hydro's policy planning must be seen against a background of today's society which is both complex and complicated. It is indeed these attributes of modern society which are at the root of Ontario Hydro's difficulties in planning – difficulties which are, of course, far from confined to Hydro, but are shared by the rest of society.... The chief result has been a climate of uncertainty.[8]

These themes – change, uncertainty, and complexity – are pervasive. They can best be illustrated by considering four topics: Hydro planning, technology, changing social attitudes, and changes in government.

Evidence given at the Commission's hearings suggests that Ontario Hydro recognized the problem of uncertainty in the late 1960s and early 1970s, and sought to design policies that would both control uncertainties and provide for the predicted growth in demand. For example, the utilization of indigenous fuels (uranium), the minimization of land use, and the reduction of environmental degradation were all key principles that influenced the decisions about the supply programme that were made within Ontario Hydro with little if any external consultation – decisions that would have resulted in a doubling of the system every 10 years.[9] However, the uncertainties of demand, the long-term economic environment, social priorities, and the rate and direction of technological change make this kind of planning extremely difficult. In earlier times, planning could be undertaken in reasonably stable conditions. Events in far-away places had little influence on Ontario. However, world-wide inflation, the rise of the Organization of Petroleum Exporting Countries and uncertainty about the price and availability of petroleum, and an international questioning of the use of nuclear power had a dramatic effect on the stability of Hydro's planning. In addition, the earlier planning principles did not lead to a declining cost of electricity as expected but rather to enormous capital expenditures and rapidly rising electricity rates, and to uncertainty about the construction of large generating stations far from load centres. Among some intervenors, it raised significant questions about the use of Ontario's finite land and water resources.[10] The impact of this dispersed development and the planned introduction of large amounts of nuclear power were two of the key influences that shifted decisions about the power system from the technological arena to the political arena.

As early as 1974, intervenors at Ontario Energy Board hearings argued that Ontario Hydro's forecast future growth was too high and that a system expansion plan based on that forecast was unnecessary. Even so, Hydro continued to build on the basis of its long-term pattern. However, by 1975, evidence of a dramatic reversal in the growth trend started to emerge. By 1978, Hydro was prepared to acknowledge that this reversal was a long-term pattern, and revised its demand projections to the turn of the century downwards by almost three percentage points. Discussions rapidly turned from issues relating to generation shortfall to programmes to develop export markets for surplus capacity, to mothballing generation equipment that was being refurbished, to cancelling generation programmes already under way, and to terminating site-acquisition programmes.

Technology and technological change has always been important to Ontario Hydro's planning. Ontario is not blessed with limitless hydraulic resources suitable for electric power production. As a result, Hydro has been at the leading edge of Canada's development of nuclear power, using an indigenous resource of the province. Its planning programme in the early 1970s was based on extensive use of nuclear generation to supply the growing demands of the urban centres. Hydro perceived that there were only a few low-cost options available for the supply of electric power – the price of coal from western Canada and the eastern United States was escalating rapidly, oil was not a suitable fuel for base-load generation, and, in its view, the renewable technologies were not developed to the stage where they could be used effectively for bulk-power generation. However, the OPEC oil crisis of 1973 brought with it a world-wide search for alternate means of meeting the world's energy needs. Almost daily the news media, the literature, and the research reports held out hope for new technological innovations that would rapidly expand our energy supply or limit the growth in demand. One result was an increased public questioning of the use of highly advanced technologies. This questioning has created and is likely to continue to create uncertainty and lead to demands that the undertakings of Ontario Hydro should be scrutinized – particularly its forecast of future demand and the sources being considered for electricity supply.

Today, issues of science and technology are at the centre of many of the controversies about energy, and are the focus of increasing public demand for participation. Inevitably, power projects are at the forefront of change, and they produce unanticipated and often undesirable consequences. Some of

their impacts are irreversible, and of unknown dimensions and duration. Because of their novelty and complexity, the general public does not fully understand their potential implications. Their scale, intricacy, and interdependence are of an order of magnitude never before encountered. The ethical dilemmas they raise often have broad social importance.

More generally, the last decade has seen dramatic changes in the attitude of society to government and its institutions. The perceived failures of the planning process, the remoteness of the large organization, and the increasing questioning of complex technology may, as Lord Eric Ashby suggested to the Commission, be the root causes of "the pressure for public participation which is linked with a distrust of centralized authority, particularly a distrust of experts – not because their expertise is doubted but because they are believed to disregard values which lie outside their expertise, or (even worse) to distort these values by quantifying such qualities as the value of a human life or the aesthetic value of a landscape."[11] He went on to say "it is too late to discuss whether the reasons for this distrust are justified. It exists and it is a danger in a society where experts are indispensable and some centralization of authority is unavoidable. People in authority have got to find ways to diminish the distrust."[12]

It is impossible to set out rigid forms for participation that will be appropriate for all kinds of decisions and will satisfy everyone. The parties involved in the process cover a wide range of public and private organizations and individuals with different interests and motivations. This diversity, and the variety of decisions to be made, mean that great flexibility must be exercised when procedures are being chosen. For some decisions, adversary procedures may serve well, but, for others, workshops, discussion groups, and seminars designed to generate consensus may be far more appropriate. The availability of information in an appropriate location and form is essential, if a right to participate is to be meaningful. But information alone will often not be enough. For complex and technical issues, the participants may need the resources to employ experts who are seen to be independent and who can help them to interpret and use the information. These issues of participation will be discussed in Chapter 5.

Recent years have also seen a dramatic change in the government institutions that regulate Ontario Hydro and that affect energy decisions made by others (industry, individuals, and municipalities). Until the mid 1960s, Hydro carried out its functions almost unimpeded by government regulation. The most important controls were:

1. a requirement of approval from the Cabinet, in the form of Orders-in-Council, for individual projects
2. the zoning requirements of municipalities
3. the requirements of the federal Fisheries Act, which included a general prohibition against discharging deleterious substances into water, and the requirement of a permit for proposed discharges that seemed to the Minister likely to be deleterious
4. for nuclear facilities, the requirements of th Atomic Energy Control Board

Warnings of emerging issues for the 1970s that would affect the regulation of Ontario Hydro and electric power planning were given in three reports made in the early 1970s by Task Force Hydro, the Advisory Committee on Energy, and the then Parliamentary Assistant to the Premier, the Honourable Darcy McKeough.

The major conclusions of all three were remarkably similar. They found that responsibilities with respect to energy were widely dispersed through the government and that the existing machinery was largely unco-ordinated. They recommended that the government give high priority to the development of an energy policy and the creation of appropriate institutions and procedures for developing such a policy. Their views about making energy policy were extensive, but most significant was their perceived need for a strong, sophisticated, and "open and flexible" institutional arrangement for obtaining advice from specialized groups and citizens and conducting hearings on major energy-policy issues.

They acknowledged that Ontario Hydro would occupy a pivotal position, not only in energy policy but also in its impact on industrial development, economic strategy, and environmental quality. At the same time, they saw a need for major changes in the planning arrangements, because of the changing attitude of citizens and the need to improve the interaction between Ontario Hydro and citizens. They stressed the need for education and open discussion of advanced generation technologies. They questioned Hydro's traditional mandate to provide power at a "cost consistent with a high standard of reliability, financial soundness, and independence",[13] and suggested that in the future Hydro should give greater consideration to environmental and social costs.

The potential environmental impact of large energy developments and the need for adequate measures for environmental protection pervaded these three reports. For example, the final recommendation of the Advisory Committee on Energy was:

> Energy policy in the future must comprise important new dimensions arising from the need to protect the environment and the quality of life as material output and population continue to grow. Environmental concerns must occupy an adequate place from the outset in all planning of programmes and projects. Accordingly we recommend that the Government of Ontario through its appropriate agencies implement a policy of requiring the preparation of environmental assessments of the environmental effects of all proposed programmes and projects prior to their implementation, relating to the production, conversion, transportation and use of energy by both public and private bodies.[14]

All three reports also gave considerable attention to the wise use and conservation of energy. Ontario Hydro, as a key provincial energy agency, was singled out as the logical body to provide leadership in matters relating to energy conservation and energy efficiency.

Both the government and Ontario Hydro responded to the findings and recommendations of the inquiries. The need for co-ordination of energy matters was acknowledged, and as a result the Ministry of Energy was created, and the administration of three energy agencies – Ontario Hydro, the Ontario Energy Board, and the Ontario Energy Corporation – was assigned to the Minister of Energy. The need for greater public scrutiny of Ontario Hydro affairs was accomplished by the establishment of a number of *ad hoc* inquiries – the Solandt Commission, the Royal Commission on Aluminum Wiring, the Select Committee on Hydro Affairs, and the Royal Commission on Electric Power Planning – and of a process of rate review before the Ontario Energy Board. The intensified public concern about environmental matters resulted in substantial expansion and rearrangement of environmental control in Ontario. The administration of environmental protection legislation was consolidated within the Ministry of the Environment, and The Environmental Assessment Act was enacted to provide for consideration of the broad environmental implications of public and private projects of all kinds.

Ontario Hydro also acknowledged the need for institutional adjustments. And government, through the Ministry of Energy, commenced an energy management programme to influence government ministries to work with those municipalities, individuals, and industries that might be called their client group in order to encourage more efficient management of energy distribution and consumption. Large numbers of Hydro's planning documents were published and distributed to the public, and a major programme of public participation was begun.

Today, the planning of the electric power system in Ontario is political in the broadest sense, because the decisions involved must be based on competing interests and value systems and on an appropriate allocation of costs, risks, and benefits in our society. With every passing day the planning process becomes more difficult; the uncertainties of the long-term economic environment and the long-term social priorities have to be added to the familiar problems of anticipating the rate and direction of technological change. Electric power planning today must also take into account the disillusionment with respect to the political process that is felt in some sectors of society, and apathy on the part of others who feel that they are powerless to influence a decision-making process that apparently ignores their interests. If by the year 2000 citizens of Ontario are to have available to them a flexible mix of energy options to meet the diverse needs and to exploit the various capabilities of Ontario, it is important that imaginative institutions and procedures be developed for electric power planning. It will be important to find means to obtain public acceptance at the local level for the construction of supply facilities. Municipalities, local utilities, industries, and individuals must be accommodated in future decision processes. Full information and open discussion of alternatives and their consequences will be essential if long-term strategies connected with electric energy management and supply are to be implemented successfully. Above all, clear political leadership will be essential to sustain the energy cornerstone of our contemporary industrial society.[15] The challenge is to design the appropriate institutions and procedures.

The following chapters present a proposal for the future. Initially, we suggest a set of principles that might guide the development of the electric power planning process. Secondly, we consider the institutions that exist in Ontario. Thirdly, we suggest new institutions and procedures for the coming decade. The analysis and the proposals reflect the views that were presented to the Commission.

CHAPTER TWO

Issues and Principles

The issues that were identified at the public meetings and the information hearings were extensively discussed in the Commission's Issue Paper No. 8, *The Decision-Making Framework and Public Participation.* A summary of these issues will be found in Appendix B. It was apparent from those early stages that all participants, despite fundamental differences in values, shared substantially the same perceptions of the pressing issues, albeit expressed in a different form with different emphasis, and resulting in different proposals. The Commission concluded that these perceptions were realistic and that they provided a useful focus. The six major issues that emerged were:

1. the need for an appropriate allocation of responsibility for decisions between the political and administrative parts of government
2. the need for a comprehensive process for making policy, including
    (a) consideration of social values, and the ends for which energy will be required
    (b) the making and testing of forecasts of energy requirements
    (c) consideration of a wide range of supply facilities
    (d) means for integrating Ontario Hydro's system and responsibilities with the plans of other suppliers
3. the need to accommodate both centralized and decentralized energy decisions and supply alternatives, which includes issues about
    (a) the role of local government and public utility commissions in energy planning, and their ability to implement supply alternatives and demand management systems
    (b) the timing of and procedures for decisions that incorporate both local and provincial interests
4. the need for an efficient process for making decisions, including
    (a) the need to minimize uncertainty, delay, and jurisdictional overlap
    (b) the need for making decisions in a rational order
5. the need for openness and public participation, which includes issues about
    (a) public education
    (b) access to information
    (c) the design of appropriate forms and sources of participation for different kinds of decisions
    (d) the funding of participation
6. the need to determine the appropriate role for Ontario Hydro, including
    (a) its role in policy-making
    (b) its responsibility for the implementation of policy
    (c) the procedures for ensuring its accountability
    (d) its relationship to government

The foregoing issues helped to focus the debate; at the same time, they form a basis for choosing and designing appropriate institutions and procedures for the future. Certain principles must be established by which the existing and proposed arrangements can be measured against emerging social, political, and technological trends. These are presented below as a set of desirable goals. There are inherent conflicts among them. We recognize that, because of our democratic process, some imperfection will exist. Trade-offs are both unavoidable and desirable. Individually, the principles cannot all be maximized, but together they must be optimized. What follows is a list of six guiding principles with associated explanations.

- General energy policies must be established, and they must be effective.

    The process of making policy must be comprehensive; that is, it must bring all relevant issues forward for consideration. It must also enable government policy-makers to have access to pertinent information from a wide range of sources, and allow them time to make informed and reasoned judgements, so they will not merely be reacting to crises. Because of the increased interrelationship of policy issues, and the rapidly changing context in which decisions must be made, the government must be equipped with structures and processes that will enable it to assess and revise policy continuously. This requires an improved capability to sense what the conditions will be in the years ahead, and an attitude throughout the decision-making structure that emphasizes responsiveness to

new and emerging requirements. It also requires a willingness to discard structures, practices, and procedures that are inappropriate for the future, however well they may have served in the past. Lastly, it requires appropriate arrangements for the evaluation of alternatives. Conflicting alternatives and conflicting viewpoints are central to the effective development of our energy system, and these conflicts must be faced squarely.

- The government must be responsible for the general policy.

  The Minister of Energy must have the knowledge and the time to deal with issues of policy, and must be able to direct and control the implementation of Ontario's energy strategy. The Minister must also have access to a wide range of information and alternatives, so that he can make informed judgements about issues of policy, programmes, and methods of programme delivery.

  Although the responsibility for policy should rest with the government, research and preliminary proposals can, and must, be made by other institutions, including the agencies, boards, and commissions reporting to the Minister of Energy.

- The institutions and procedures must accommodate change and diversity.

  Energy decisions in the 1980s will be made in a complex and turbulent environment; the future will be uncertain, and the results of actions taken will be difficult to measure. The structure for making decisions must have a high degree of adaptability to specific tasks, for example, long-range planning, site-approval, and rate-setting. The process must be flexible, to accommodate change, and it must encourage diversity. The process must, therefore, be the very antithesis of a search for the "one best way".

- The institutions and procedures must encourage innovation.

  In the past, the decision-making processes have been designed to approve or disapprove of conventional proposals put forward by utilities. In the future, the institutions must encourage innovation and the consideration of alternatives. The process must encourage both proponents and intervenors to think broadly about society's needs, and consider a wide range of means of satisfying these needs, including the curtailing of the growth in demand.

- The institutions and procedures must minimize delay and must present decisions in a rational order.

  A major criticism of the existing arrangements is that, often, decisions are not made within a reasonable time or in a rational order. Delay can cause financial losses, for example, the loss of the value of unused resources. Just as important, it can also interfere with the proper consideration of issues. For example, the realization that a delay has occurred can cause haste and confusion, leading to inadequate consideration of alternatives or the neglect of important issues. Likewise, an inappropriate sequence of decisions can cause delay, confusion, and distortion. For example, the need for a generating plant cannot be considered in a hearing that is also dealing with the question of its location or the location of the transmission lines that will link it to the grid. In the same sense, fundamental environmental or technological issues should not surface at hearings called to deal with specific projects.

- The institutions and procedures must be open, and must permit and encourage public participation.

  The value of public participation and the forms it should take were debated and experimented with throughout the 1970s. Much experience has been gained by government, by Ontario Hydro, and by the multiplicity of participants. The conclusions are clear: public participation need not be inconsistent in any way with government responsibility for policy. It provides an effective means of testing proposals, whether long-range or dealing with specific projects. The only question for the next decade is how it should be achieved.

CHAPTER THREE

The Present Institutions

Fig. 3.1: p. 18

It would be unrealistic to speculate about designs for the future without understanding and assessing the present. This chapter is a description of the principal institutions and procedures that are concerned with the planning of the electric power system in Ontario. A comprehensive survey would be unwieldy and in any case is unnecessary. The lessons to be learned, and the general nature of the changes that need to be made, may be derived from a description of the major participants, especially Ontario Hydro, the Ministry of Energy, the Ministry of the Environment, the Ontario Energy Board, the Environmental Assessment Board, municipal government, the Ontario Municipal Board, and the Atomic Energy Control Board. The Cabinet and the Legislature are not included, simply because they are already familiar and have been thoroughly analysed.[1] Briefly, the Cabinet's powers are found in the legislation, particularly in sections of the Power Corporation Act that require Orders-in-Council before Ontario Hydro may undertake a particular action. The Legislature's responsibility to review Ontario Hydro's affairs has been enormously enhanced by the establishment of the Select Committee on Hydro Affairs, which has been in existence for four years. The extended review by that committee has taken it to the very heart of Hydro's planning principles.

Also excluded are the private participants – individuals and groups.[2] There are many of these participants, and their organizations and interests are extremely diverse. Their participation is important, and will be considered in Chapter 5.

Some of these institutions are old and well established, and some are new. Some have functions limited to electricity, and some were designed to have wider functions, of which responsibility for electricity is only a part – even though it may be a large part. The accumulation of functions over time has left gaps and created overlaps and complexities that are compounded by the diversity of purposes. The institutions are used by various people and organizations, in different ways and guided by significantly different values. While the principal objective of the existing institutions and processes is to plan and implement in an expanding but orderly fashion the electric power supply for Ontario, these institutions and processes are also being used to manage the demand for electric power, to protect the natural and man-made environments, to protect private property, and to exercise control over government and government agencies, boards, and commissions. Increasingly, but not inconsequentially, the institutions and processes are being used (and often abused) by those who wish to enter politics and in other ways to further purely personal ambitions. Much of the complexity that was briefly described in Chapter 1 is a result of this.

Ontario Hydro

Ontario Hydro is a publicly-owned corporation, and its functions and structure are specified by the Power Corporation Act. Its functions are, "the generation, transmission, distribution, supply, sale, and use of power", and its senior management body is the Board of Directors appointed by the Lieutenant Governor in Council. The Board is responsible for the performance of the foregoing functions, for making broad corporate plans, and for integrating corporate and government policy. However, these responsibilities operate within the context created by the other institutions. The most immediate and comprehensive control is the requirement, specified by the Power Corporation Act, for Cabinet approval of most major actions, for example, borrowing, acquisition of property, and construction of generation and transmission facilities.

The powers and responsibilities of Ontario Hydro were debated throughout the Commission's inquiry. Vague assertions, only occasionally supported by concrete examples, were made that Hydro is too large, technocratic, inflexible, insensitive, remote, and, above all, arrogant. More particularly, many of the participants argued that Hydro has too much power over important decisions, such as how much electricity to produce, how to produce it, and how much to sell it for. They argued that much of Hydro's power should be exercised by the provincial government. This issue of the allocation of functions between Ontario Hydro and the government, and accountability for exercising them, is crucial.

The organizational structures of both the government and Ontario Hydro were analysed in the early 1970s by the Committee on Government Productivity (COGP) and Task Force Hydro. COGP recommended that organizational structure should clearly assign responsibility for policy formulation to

government, and assign only responsibility for implementation of policy to the "independent" or "operational" agencies. Task Force Hydro agreed, and recommended that Ontario Hydro should be independent of government in operational matters while functioning within the "overall policy of the provincial government". It went further, and recommended that Ontario Hydro should be made a corporation rather than a commission, which it had been since its creation, with a board of directors that would be responsible to the government. It argued that the corporate form would give greater organizational distinctiveness, more flexibility, better opportunities for delegating day-to-day business, and an opportunity to make account-keeping emphasize output rather than input. In addition, Task Force Hydro argued, perhaps too optimistically, that the corporate form would clearly signal a break from the past to Hydro officials and staff, to government, and to the public.[3]

The government accepted these recommendations, and in 1973 enacted the Power Corporation Act, which made Ontario Hydro a "commercial" corporation, and one of the many operational agencies of government. But the government went no further in defining its relationship with Ontario Hydro. However, the uncertainty of definition should not be considered unusual. As the COGP reported in 1972, and the Royal Commission on Financial Management and Accountability in 1979, successive governments have failed to establish a clear reporting relationship with government agencies. Therefore, perhaps as a response to the COGP finding, the Management Board of the Cabinet in 1974 undertook a study of operational agencies. It said:

> Although government may appoint members to the governing boards, and may give broad policy direction, many operational agencies still occupy an area between government and other sectors of society. In many instances this has led to confusion as to what their role, their objectives, and their rules of conduct are to be. In some cases, this lack of clarity and distinction has resulted in disagreement, frustration, and disappointment within the agencies themselves, within the government and among members of sectors of the public.
>
> For several reasons the classification of an operational agency will have important implications for its role and relationship with government. In particular, a clear differentiation must be made between agencies with predominantly economic objectives and those with predominantly social objectives. The lack of this distinction has caused considerable problems in the past. In the case of a commercial corporation (Ontario Hydro), the principal problem has been the imposition of social objectives in addition to the corporation's commercial objectives. Imposition of social objectives has often made it difficult to determine what the role should be, because of the divergent or contradictory objectives.[4]

The Management Board recommended that a commercial corporation should be given a detached, written mandate specifying functional and financial objectives, the constraints within which the organization must function, and the way in which the government may direct the corporation to modify elements of its activities, either by assuming new objectives or restraining its behaviour, so that the government can meet certain of its social goals.[5]

The most recent study on the accountability of commercial corporations was undertaken for the federal government by the Royal Commission on Financial Management and Accountability (the Lambert Commission). That commission's analysis and recommendations are similar to those of the Management Board and are applicable to Ontario Hydro. The commission said:

> When governments become involved in marketplace operations . . . a sensible method of achieving administrative devolution is to entrust such tasks to a corporate board of directors. . . . [*However,*] while the corporate form offers a proven capability for efficient management of particular types of tasks that encourages governments to resort to its use, its adaptation to governmentally determined purposes creates problems that do not exist for private sector corporations. By law, directors and officers of all corporations have certain duties and obligations imposed upon them, but in public sector corporations a board of directors not only assumes these same obligations but must contend with a designated minister, other ministers, and central agencies, the Cabinet, and, ultimately, Parliament. Obviously, the boards of Crown corporations are required to respond to the Crown as owner in a far more extensive and complicated way than is true for the private sector board's relationship with corporate shareholders.[6]

The Lambert Commission, too, recognized the need for clear boundaries between the policy and management functions. Tensions between operational functions and perceptions of the provincial interest are inevitable, but intrusions will invariably jeopardize the successful functioning of the corporation and will create doubt about the corporate form. The Lambert Commission recommended:

> The Board of Directors should have assigned to it a clear and unequivocal mandate, together with the

> attendant powers to manage and direct the operation . . . the corporate board [must be] held accountable for those decisions that its mandate and delegated power entitle it to make . . . Directors and officers of Crown corporations need to know not only what they are accountable for, but also how they are to be held accountable.[7]

These conclusions are sound. The general objectives of allocation of function are clear and beyond debate. The major current problem is how to achieve them. For the purpose of supplying the bulk power needs of Ontario, the "commercial" corporation form is most suitable. The Power Corporation Act establishes the general functions of Ontario Hydro, but, alone, it is inadequate. A more explicit statement of functions should be made. We are aware that such a statement is under preparation, and we have had an opportunity to discuss its development. We are discouraged by what we have heard. The lengthy negotiations cause us to believe that, either government does not have a clear understanding of the objectives for which Ontario Hydro exists, or Ontario Hydro is as politically powerful as some participants in the Commission's hearings have suggested. From all indications, the contents of the document are vague and bland. It should be much more explicit, and contain a clear statement of the objectives and functions of Ontario Hydro, and a well-defined procedure for the specifying of social objectives by the government.

The Ministry of Energy

The recommendation made by Task Force Hydro that the government have responsibility for general policy was echoed in reports by the Advisory Committee on Energy and by the Honourable Darcy McKeough when he was parliamentary assistant to the Premier with special responsibility for energy. The government responded by establishing the Ministry of Energy, with responsibility to review energy matters continuously; advise the government in its dealings with other governments; and make recommendations about research and development, the co-ordination of energy matters within the government, and the adequacy of supply prices and franchises. The evidence given by the Ministry to the Commission emphasized the distinction between "operations" and policy.[8] The Ministry asserted that Ontario Hydro is responsible for day-to-day planning and operations, and that under normal circumstances the government does not interfere. The government is responsible for policy, and the Ministry is responsible for the development and co-ordination of the policy that is established through the Power Corporations Act; through other legislation, for example, the Environmental Assessment Act; through directives; and through consultation between the Minister and the Chairman of the Board of Directors, and between the staff members of the utility and the Ministry.

We have considered the suitability of the Ministry concept and the related principle of separating policy-making and service-delivery functions and have concluded that the concept is appropriate for energy planning in Ontario. However, we are concerned that the Ministry office has been given neither the staff nor the time, in view of its commitments to day-to-day matters and short-term problems, to generate general policy for the purpose of long-range planning. We are also concerned that, by its very nature, the Ministry office conducts its business in private, out of the eyes of the public, and thus does not readily submit to public participation and openness. Even though the Ministry has existed for six years, there is little evidence that it has been capable of responding to its major purpose and to the need for an energy policy framework. The lack of a policy framework and the need for it were demonstrated continually by participants in the Commission's hearings, including Ontario Hydro. The need for policy-making is crucial, and, therefore, we strongly encourage the government and, in particular, the Ministry to emphasize this function. The uncertain context makes it difficult to set policy in energy matters and adhere to it, but this difficulty does not diminish the need.

Openness and flexibility were characteristics originally envisaged for the new Ministry. In general, the government has sought to provide these characteristics through the use of Royal Commissions and Select Committees. The Ministry could, however, do more than it has done to permit freer and more open interaction between policy advisers, citizens, and public interest groups, and adequate resources should be provided to the Ministry for this purpose.

Improved communications within government relating to energy matters is also an essential requirement. The Ministry should ensure that adequate channels of communication exist for dealing with policy questions that affect Ontario Hydro, among ministries and between them and Ontario Hydro and the public, and it should also ensure that procedures exist to bring policy issues into focus within

and among ministries. As energy requirements and the impacts of energy supply become more significant in provincial planning sectors such as industry, housing, transportation, and agriculture, an explicit assessment of energy implications will become necessary in all planning processes.

The Ministry of the Environment

The three energy inquiries undertaken in the early 1970s all perceived the emergence of environmental issues. The Advisory Committee on Energy said, "Environmental problems rising from the expanding use of energy will increase and intelligent controls and 'trade-offs' will be an essential feature of energy policy in the future."[9] Task Force Hydro said, "Environmental policy like energy policy is increasingly claiming the attention of the policy-makers. Because Ontario Hydro's environmental impact is great, policy in this area has become a most important consideration."[10] The wisdom of this advice is becoming increasingly evident as information accumulates about acid rain and the urgent need to find a long-term solution to the problem of disposing of radioactive wastes.

To bring the government's programmes of environmental protection into focus, the Ministry of the Environment was created in 1971 and environmental legislation was consolidated under its umbrella. The individual organizational units – air management, water management, and waste management – had for a number of years approved, monitored, and inspected the facilities of Ontario Hydro in an unco-ordinated way. For example, the emissions from the stacks of Ontario Hydro's thermal plants were regulated by the air-management inspectors, and water emissions were monitored by the Ontario Water Resources Commission.

The creation of the new ministry brought about organizational changes that affected Ontario Hydro. Previously, fragmented approval functions were consolidated into a single branch, and inspection and monitoring personnel were consolidated in regional offices, which were close to the utility's facilities. The separation of the inspection and standards-setting functions led to increased concentration on the development of environmental standards, which would later be incorporated in regulations. The consolidation also broadened the ministry's vision and influence, from environmental requlation to integrated environmental planning. Increasingly within the ministry, it was acknowledged that the best environmental protection would result from comprehensive long-term planning and from the consideration of specific projects within broader planning concepts. It was this thinking that led to the preparation of the Environmental Assessment Act.

It was not long before the impact of these changes was felt by Ontario Hydro. Of government ministries, the Ministry of the Environment has been the most active in reviewing Ontario Hydro's long-term plans, and its staff has been the most open in expressing opinions about Hydro's planning concepts. They have been active participants at the Solandt inquiry, at the Commission's hearings, and in Ontario Hydro working committees. They have also provided considerable resources for the discussion of Ontario Hydro matters at the Cabinet Committee on Resources Development. The openness of the ministry and its interest in thoughtful, integrated planning should be encouraged. There was no evidence at the Commission's hearings that Ministry of the Environment personnel wish simply to stop development in Ontario. Their principal interest appears to be directed to better planning and more active participation by all affected parties.

The Ontario Energy Board (OEB)

The OEB was established by the Ontario Energy Board Act. It has a long history of regulating natural gas, especially prices and the locating of pipelines, and, in 1973, the Act was amended to expand its functions by providing for hearings and reports about the rates of Ontario Hydro, and any other topic "in any way affecting or related to rates" referred to it by the Minister.

The topic the OEB has considered most often is rates; that is, the price at which Ontario Hydro sells electric power to the retail distributors and to its direct customers. Hydro has the ultimate responsibility for setting its rates. However, the Act provides that if it proposes to change the rates it charges municipalities or municipal utilities, or major industrial customers, it must submit its proposal to the Minister of Energy, who must, in turn, refer the proposal to the Energy Board, which must hold a public hearing. The OEB must make a report to the Minister, but the Act does not make such a report binding or impose any other responsibility concerning it on the Minister or on Ontario Hydro. Therefore, the function of the OEB is simply advisory and Ontario Hydro, in a position of virtual monopoly, sets its own prices. Hearings about rates have been held every summer since 1974.

The OEB members have made four useful comments about this rate-review process:[11]

- Its usefulness is limited by the need to consider the costs for a given year in isolation from other years and from their underlying determinants (the rate of growth in system capacity, and the consequent capital expenditures).
- General policy direction from the government about rates would be helpful.
- Technological expertise is useful, if not necessary, and therefore the function should be continuous, to permit a "learning process".
- "Public participation" makes an important contribution.

In 1976, the Minister referred to the OEB the general principles for setting rates, and in particular a study done by Ontario Hydro, the "Electricity Costing and Pricing Study". After a long hearing, the OEB submitted its report to the Minister in December 1979. Again, the OEB's role was advisory. The government and Ontario Hydro are now considering its recommendations.

The OEB has also considered two other topics, which were referred to it in 1974 by the Ministry of Energy. They were Ontario Hydro's system-expansion plans, especially the programme for generation development from 1977 to 1982, and Hydro's financial policies and financial objective. The hearing and report about the system-expansion programme is the more important. The programme had been submitted to the government, and approved, subject to review by the OEB and whatever other existing or new review mechanism the government might utilize to consider specific projects. In its report, the OEB recommended some reassessments and modifications. But it failed to change the opinions of the planners in Hydro, and as a result the recommendations were considered by the utility but not accepted. It was only after the Ontario Treasurer directed Hydro to reduce its borrowing and expenditures that some changes were made in the system expansion programme. Clearly, policy direction from government was needed before the utility would alter its expansion course.

The OEB has, over the last decade, developed considerable knowledge and understanding of most aspects of planning, even though its primary emphasis has been on rates. Unfortunately, capability is often overshadowed by an image of poor public participation which possibly stems from the rather formal, legalistic procedures used in rate hearings. Whatever the cause, it was one of the principal reasons why the OEB was not assigned responsibility for the inquiry that was undertaken by this Commission.

The Environmental Assessment Board (EAB)

The Environmental Assessment Act was enacted in 1975, and was the major part of the government's response to increasing concern about environmental protection. It has been called "the most important piece of environmental legislation ever enacted in Canada".[12] It created the Environmental Assessment Board, and established a process for the consideration of proposed undertakings that will have a significant environmental impact. Not all proposed undertakings are included, but proposals for major generation and transmission facilities clearly are. The EAB is composed of "not fewer than five" members. At present, it has 16 members, although only one, the chairman, is full time. It has only a small professional staff of its own, and it depends heavily on the Ministry of the Environment for support.

The process for considering proposals is complex and contains several alternative routes, but the basic pattern involves submission of an environmental assessment to the Ministry by the proponent of an undertaking, review of this assessment by the Ministry, and a hearing by the EAB (see Figure 3.2). The EAB must approve (and may impose conditions) or reject the assessment, and the government may modify or reverse the EAB's decision. The government may also exempt undertakings from all or parts of this process. The environmental assessment process is new. The EAB has had little experience of any kind, and virtually none with proposals for generating plants and transmission lines, and therefore many details are still unsettled. Beyond the details, four major problems remain.

ig. 3.2: p. 19

First, the composition, staff, and resources of the EAB are not adequate for it to undertake a thorough analysis of a large and complex undertaking, and reliance on the staff of the Ministry may compromise the EAB staff and detract from openness, which is essential. The Ministry should not be responsible for determining whether an environmental assessment of an Ontario Hydro project is adequate. To achieve the independence required, the evaluation should be a function of the EAB in a manner similar to the way the National Energy Board evaluates a proponent's submission.

Second, the traditional trial-type hearing process has limits that make it inappropriate for considering

some of the questions it must deal with. Much initiative and imagination will have to be put into the designing of appropriate alternatives. Some suggested procedures will be discussed in a general way in Chapter 5.

The third issue is the power of the Cabinet to exempt undertakings from the assessment process. Use of this power endangers two major objectives of the process: to provide open and independent consideration, and to regularize sensitivity to environmental considerations in planning. At the outset, the power may have been useful, for exempting undertakings for which extensive commitments had been made before the Act was enacted. This need has passed. Situations may arise in the future for which exemptions for a major Ontario Hydro facility may be approprate but it is difficult to imagine them now. The fourth issue is the jurisdication of the EAB, and particularly its responsibility to determine policy, for example, policy about the need for additional electric-power supply facilities and the general design of the system. The Act provides that the assessment must include a description of the "purpose of the undertaking", and of "the rationale for the undertaking, the alternative methods of carrying out the undertaking, and the alternatives to the undertaking". Interpretation of these terms is difficult, and may depend upon the context, including the existing electricity system and other arrangements for considering policy and need. The recommendations made in Chapter 5 are directed at eliminating issues, and it is enough at this point to say simply that the EAB is not an appropriate agency for considering these issues.

Before the Environmental Assessment Act was passed, two kinds of environmental approvals or permits were required, and these requirements continue. The Environmental Protection Act requires approval for any undertaking that may contaminate the environment (excluding water), and this requirement obviously includes fossil-fuel or nuclear generating plants. An application for approval may be referred to an environmental council, which is an advisory body, but no public hearing is required unless an application is refused. Upon refusal of an application, the applicant has the right to appeal to the Pollution Control Appeal Board, which must give a hearing. The Ontario Water Resources Commission Act requires approvals for taking and discharging water for cooling generating plants, and, again, no public hearing is required. Obviously, these requirements must be co-ordinated with the existing environmental assessment process or any process established in the future to perform the same functions. Reconsideration of issues that have already been dealt with during the environmental assessment process would be at best a waste of time, and inconsistent decisions about the same issues would be simply irrational.

Municipal Government

Large generating plants and long high-voltage transmission lines are the dominant elements of the existing supply system, and will continue to be dominant for the indefinite future, even though the use of smaller and decentralized facilities is likely to be expanded. These plants and transmission lines have a large and direct impact on the neighbourhood. The nature of the impact is usually hotly debated, and it is often perceived to be adverse, especially the impact of transmission lines, which have no apparent benefit for the communities between their terminals (at least, no greater benefit than they have for distant areas). These impacts and perceptions often cause resentment and conflict, and anticipation of them often causes individuals or areas to oppose proposed facilities. These reactions are entirely understandable and legitimate at the level of local government. Few persons are willing to endure without protest a loss that works to the benefit of some large and distant community, especially a loss that seems to have been imposed at random and could just as easily have been imposed on others. This conflict appears openly most frequently in municipal planning, which is discussed in this section, and expropriation, which will be discussed in the next section.

Municipalities have the power to make official plans and by-laws governing the use of land. The plans must be approved by the Minister of Housing or, if an objection is made, by the Ontario Municipal Board; the by-laws must be approved by the Ontario Municipal Board. For both, an appeal may be made to the Cabinet.[13] Ontario Hydro has often requested that comprehensive exemptions be written into these plans and by-laws for any future facilities, and the recent tendency has been to refuse these requests and to uphold the refusals on appeal. If a zoning by-law prohibits a particular proposed facility, Hydro must request an amendment. If it is refused, an appeal may be made to the Ontario Municipal Board, and from that board to the Cabinet.

These decisions are essentially about the location of facilities. Once decisions have been made about the general nature of the system and the need for another facility, the facility must be located somewhere,

and the issue is, where? The municipal planning process is entirely inappropriate for making this decision. Each municipality will likely not have a comprehensive perspective, and, if the impact of a proposed facility is perceived as harmful, it has no reason to accept the harm. Neither municipalities nor the Ontario Municipal Board have experience or expertise for considering the context that made the choice necessary or for considering some of its elements, for example, system planning and security. A comprehensive and unified process is needed (for at present the Environmental Assessment Board provides only part of such a process). The municipal planning process would accomplish nothing more that would be useful, and the least cost of such duplication would be inefficiency and confusion. The municipal planning process should not include decisions about the need and location of major electricity facilities, and whatever comprehensive process is established should include consideration of municipal interests.

Municipal planning has been studied extensively during the last few years by a series of commissions and committees, and the government has expressed its policy in the *White Paper on the Planning Act*. One continuing major theme is respect for local autonomy in planning, subject to provincial interests. The White Paper recommends that "broad provincial interest", including "the efficient supply and use of energy", be protected from impairment by municipal planning. The paper concludes that

> Ontario Hydro is not presently exempt from municipal controls, but its works are subject to The Environmental Assessment Act in the same manner as major provincial public works. In keeping with the proposals to avoid unnecessary duplication between the planning and environmental assessment process, Ontario Hydro undertakings will in future be exempt from municipal planning controls, but Ontario Hydro will be required to consult with municipalities prior to taking specific actions.[14]

This conclusion is essentially the same as the conclusion that we have made, but it may not go far enough. The White Paper conclusion should not obscure the need to have Ontario Hydro proposals reviewed in a comprehensive and unified way through some other process.

The Expropriations Act

Any facility requires ownership of land or an easement. These interests are usually obtained by negotiation and agreement, but, if agreement cannot be reached (and the facility is to be constructed), expropriation is the only alternative. The Expropriations Act imposes the requirements of a hearing and the assumption of political responsibility by the government. It requires a hearing by an inquiry officer, to consider whether the proposed expropriation is "fair, sound and reasonably necessary for the achievement of the objectives of the expropriating authority". The "objectives" themselves may not be questioned. This limitation caused difficulty and uncertainty in the hearings about the Bruce to Milton transmission line. Some land-owners on the proposed route sought to show that a substantially different route, from Bruce east to Essa, just south of Barrie, was superior. Ontario Hydro objected, on the ground that to consider the merits of such an alternative would be to question the objectives of the proposed expropriation. This issue was considered by the courts several times. The reasoning and the results were confusing, if not inconsistent, but in the future the tendency will probably be to limit consideration of alternative routes or locations to minor or local changes.

After the hearing, the inquiry officer must make a report to the "approving authority", the Minister of Energy, who must approve or reject the proposed expropriation (or approve it with modifications).

Doubtless, a hearing under the Expropriations Act is inappropriate for considering the general locations or routes of facilities. Such a hearing would duplicate the consideration of such matters in a more appropriate, comprehensive process; it can take place only at the request of owners, and the hearing officer has no staff experience or expertise. However, provision for hearing and giving independent consideration to minor or local alternatives is needed, and the process of the Expropriations Act is appropriate for that. In Chapter 5, the question of merging the Expropriations Act process into the larger comprehensive process will be considered.

Standards-Setting or Rule-Making

Both the provincial and the federal governments have rules, or general standards, that affect the construction and operation of electric power facilities. Some of these rules are expressed in statutes, and others are regulations made under powers given by statutes. The following is a brief discussion of some of the more important statutes that affect utility planning.

The federal Fisheries Act contains a general prohibition against putting any "deleterious substances" (which include heated water) into "any water frequented by fish". It also empowers the Department of Fisheries and the Environment to make regulations elaborating on this prohibition, and concerning pollution generally, but no regulations have been made that have any direct significance for Ontario Hydro's electricity facilities. No public participation in the making of such regulations is provided for.

The federal Clean Air Act gives power to the government to set objectives for air quality and guidelines for emissions, none of which is binding, and to make standards for emissions, which are binding. No standards have been set that have any direct significance for generating plants, except for objectives concerning sulphur dioxide. No public participation is required, except for a requirement that the standards for emissions be published, and this may imply a right to make submissions. In Ontario, the Ontario Water Resources Act contains a prohibition against pollution of water, and the Environmental Protection Act contains a prohibition against contaminating the environment and gives the government power to make regulations controlling pollution. The regulations that have been made include a general prohibition against contaminating the air, limits for emissions of particular kinds (including sulphur dioxide), control of the density of emissions, an air pollution index, and objectives for the quality of ambient air. No public participation is required in the making of these regulations. It is our belief that, when rules or standards are being made, certain rights should be granted to the public for making comments and presenting briefs. This process should be open. The government should make its decisions about standards after public comment has been considered.

The Atomic Energy Control Board (AECB) and Nuclear Regulation

The Commission in its interim report entitled *A Race Against Time*, issued in September 1978, presented its findings and conclusions about the regulation of nuclear power. At that time, the Commission emphasized that the views expressed were tentative and that its final conclusions and recommendations would be presented after further hearings.

In the interim report, the Commission suggested that "the regulation of nuclear power is distinctive in that it occurs in an environment of continuing and perhaps growing public concern and divided opinion over the risks and benefits associated with the technology".[15] This concern and division of opinion will continue, but the focus will change. The licensing of new facilities will not be a major aspect of nuclear regulation in Ontario, because of forecasts of declining load growth and the diminishing prospects for the development of a large nuclear programme. Instead, attention will turn increasingly towards the management and security of existing plants, and compliance with the conditions of the operating licence or other orders the AECB may impose on the utility. Vigilance and open reporting by the regulatory authorities will be essential, and greater emphasis must be placed on the role of the human operator in reactor safety. The AECB must continue to increase the separation between itself and the industries and utilities it regulates, and to improve its capabilities to monitor the industry. In this regard, the AECB wrote to the Commission after the publication of the *Interim Report* to indicate that "both the substantial increase in Board staff and the attainment of a wider gap between the AECB and the industry ... are, to a large extent, dependent on the reintroduction to Parliament of the proposed Act (Nuclear Control and Administration Act) and its subsequent approval". Greater emphasis must be placed on the role and responsibility of the resident inspectors. Their functions should be continued, but their reports should be made public. The public and the government must know what actions have been taken to ensure the safety of a nuclear reactor.

In its interim report, the Commission described potential difficulty and uncertainty about the division of legislative powers over nuclear energy between the provincial and federal governments, especially in the environmental assessment area. At that time, the Commission endorsed the AECB's responsibilities for regulating developments for the purpose of protecting health, the environment, safety, and security. This allocation of responsibility is appropriate, because there appears to be no reason to believe that the health, or the safety, or the security of the citizens of Ontario is being jeopardized by this arrangement. The Commission indicated that co-operation between the federal and provincial authorities is needed if delay, expense, and uncertainty are to be avoided, and encouraged the making of appropriate agreements. In recent months the Ministry of the Environment and the AECB have entered into discussions with a view to arriving at an agreement on procedural matters related to approvals and the imposition of standards.[16] The rapid completion of this undertaking should be seen as a priority.

The *Interim Report* stated that the AECB should consider costs when evaluating health, environmental, and safety measures. This matter was investigated further after the issuance of the interim report, and the investigation reinforced the conclusion that it is appropriate for the AECB to be aware of the economic implications of safety measures that are imposed on the utility. However, it is possible to give too much weight to the economic health of the industry. Again, the AECB should continue to widen the separation between itself and the industries it regulates. Primary concern for economic considerations should be left to the utilities and the provincial governments.

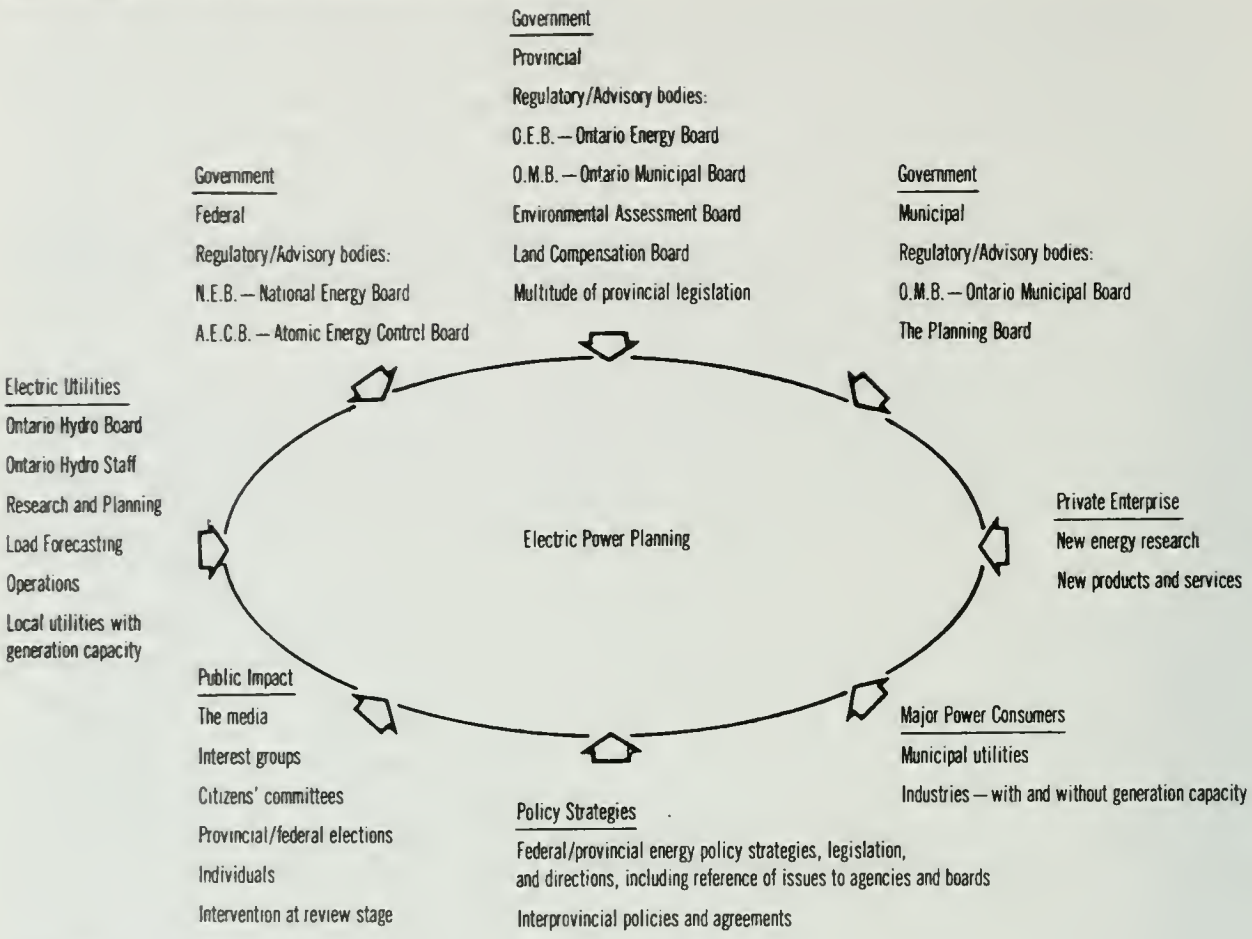
The *Interim Report* emphasized that the proponent should be clearly accountable for design decisions. The importance of this recommendation is underlined by the uncertainty about accountability for design decisions that emerged at the time of the accident at the Three Mile Island nuclear power plant in the United States. The burden of proof for demonstrating the health and safety of their nuclear plants should be clearly placed on the proponents.[17]

The advisory committees have been a major strength in the Canadian regulatory process. In 1979, they were restructured and reduced in number to three.[18] In its *Interim Report*, the Commission endorsed their continuation. Subsequently, it received some criticism of this conclusion, on the basis that it would create problems for public participation. Even so, in considering the limited number of knowledgeable nuclear experts in Canada, the advisory committees perform a useful role, particularly in providing input on generic issues. The continuation of a limited number of broad-based advisory committees is essential. The important principle of openness should influence their activity. If these committees are to perform a central advisory role in the future, then their views should be open to public review which would at least include the right to make written comment. However, an additional advisory committee composed of experts known to be critical of the industry could be useful in the AECB's advisory system.

In 1978, the AECB began to make written rules and guidelines for all aspects of the fuel cycle. Some have been prepared, others are in the process of being written, and still others – for example, rules relating to facilities for permanent spent fuel storage – cannot be developed until the appropriate technology is established. Continued work on the documenting of rules and guidelines is necessary, and in our opinion should have a high priority within the Board. This is also an area that should include public involvement. Participation in standards-setting, and in the licensing process generally, will be discussed in Chapter 5.

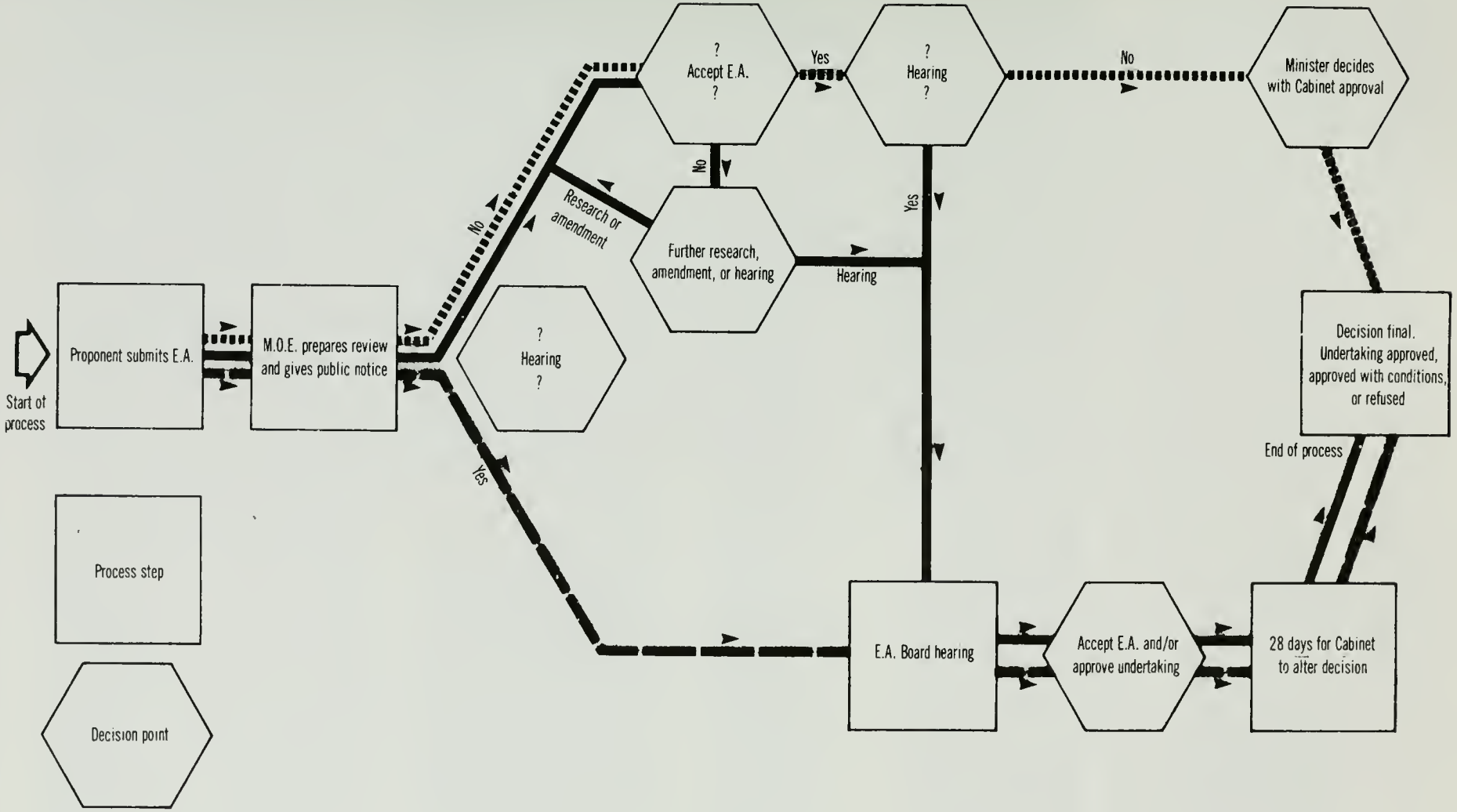
Finally, the importance of compliance and monitoring cannot be underestimated. The same amount of attention that has been directed in the past to the assessment of proposals for development should be applied to the development of programmes for the monitoring and supervision of performance standards. A full regulatory process that included an extensive programme of compliance would have data to contribute to the assessment of future projects, as well as aiding in enforcement.

Figure 3.1 Range of Institutional Influences on Electric Power Decisions



Source: RCEPP.

Figure 3.2 Basic Flow Diagram of the Environmental Assessment Act 1975



Source: Ministry of the Environment submission to RCEPP, February 1979, Exhibit 397.

CHAPTER FOUR

Planning: in Ontario and in Ontario Hydro

Control of the direction of planning and development in the province was a central issue in the RCEPP's hearings, and a focus for much of the concern expressed about responsibility for decision-making. Intervenors suggested that the province lacks a planning framework, a backdrop against which Ontario Hydro can plan and implement the power system. These intervenors went further to argue that without this framework the production and transmission of electricity has become an end in itself rather than a means of achieving social, economic, and political goals. They argued that Hydro and not the government is controlling the future character and the pattern of development of the province. Their concern was expressed clearly by one intervenor:

> Either we plan Ontario... the Province of Ontario plans it, or, by default, Ontario Hydro will plan it... you can't plan it in a vacuum.[1]

This chapter is about efforts by the province of Ontario to direct the development of the province – to anticipate population growth, industrial development, social infrastructure, environmental requirements, and capital expenditure patterns. Also outlined are the efforts of Ontario Hydro to respond to this planning, and the processes Hydro has established for making decisions about the planning and implementation of the electricity system. Provincial decision-making and Ontario Hydro's response are evaluated in the light of the principles discussed in Chapter 2. In particular, consideration is directed to the making of policy, government responsibility for general policy, the ability to accommodate change, and the encouragement of public participation.

Provincial Planning

In the late 1960s and early 1970s the government of Ontario was fully committed to a substantial undertaking in central planning – an undertaking that was intended to lead to significant policy development in areas such as urban development, resource allocation, financial management, and infrastructure (roads, sewers, power lines) development. Planning units sprang up throughout government, an extensive statutory planning framework was put in place, and governments at all levels became increasingly involved in planning processes.

In 1966 "Design for Development" began. The process involved provincial and local officials in extensive open dialogue and was intended to provide increased provincial government guidance to municipalities, and to provincial agencies such as Ontario Hydro, in coping with population growth, economic development, and urbanization. It was, in every sense, an attempt to ensure that regional and local plans, and specific public and private-sector projects, were consistent with a broader, agreed development scheme. Planners argued that the provincial government should guide regional land use and economic development, ensure that all development in the province was "correlated", attempt to coordinate provincial and municipal spending in support of "mutually agreed provincial and regional planning objectives", reduce regional economic inequalities through the development of the "unique economic potential of each region", consider social and environmental effects as well as economics, and control random urban development in rural parts of Ontario.

In 1970, the initial Design for Development undertaking was supplemented by master planning efforts for areas experiencing significant development pressures, such as the Toronto-Centred Region. The reports relating to the Toronto-Centred Region described financial constraints that might require priorities to be established among goals, and they reaffirmed that a reduction of the persistent disparity in incomes and access to services were the primary objectives of provincial development policy. At the same time, they emphasized the need to conserve and protect natural resources, distribute population growth and urban development widely across the province, and stimulate economic growth in eastern and northern Ontario and build upon resources indigenous to those two areas.

During this period, the province also proposed to "refine" its policies relating to agriculture, recreation and tourism, forestry, mining and aggregate extraction, and fish and wildlife. It reaffirmed that the fertile foodlands of Ontario would be protected for food production "to the extent possible" and that an "intensified preferred-use approach" would be taken to such foodlands. Policies and programmes would be undertaken to ensure the economic viability of individual farms of economical size and the

overall stability of the agricultural sector; those policies and programmes "would be tailored to specific circumstances and needs" of the different parts of the province.

The 1970 reports also contained the concession that "although government programmes such as housing, industrial development, and transportation would be used to support urban demographic policies and preferences, there is no implication of intent to restrain development elsewhere".[2]

On April 8, 1976, the Treasurer of Ontario, the Honourable W. Darcy McKeough, tabled documents entitled "Trends and Options", which were the last and most sophisticated of the planning documents designed to impose centrally determined "plans" on the province. However, the Ministry of Treasury, Economics and Intergovernmental Affairs, responsible for regional development, noted that these documents "are not intended as rigid blueprints; rather, they are designed to provide a basis for consultation with the public and local governments concerning the future development of the province".[3]

During this period, new legislation was being enacted to ensure that plans for certain regions and projects, including those of Ontario Hydro, came under closer scrutiny. The Ontario Planning and Development Act, the Niagara Escarpment Act, and the Environmental Assessment Act established limits on the actions of many agencies, including Ontario Hydro, and added to the already existing framework of legislation and ministerial jurisdiction designed to deal with rates, system expansion, and financial matters. These changes resulted in the emergence of new institutions and procedures without a corresponding reduction in the existing ones.[4] They did not result in any increased direct policy control by the province over Ontario Hydro but they did result in erratic reviews by various agencies of some aspects of the utility's programmes and projects. On the other hand, the changes have generally permitted greater scrutiny of some of Hydro's activities and enhanced opportunities for public participation in some of the decisions about electric power supply.[5]

By 1976, the concept of long-range comprehensive plans had become less popular, and the provincial government was retreating from its policy of centralization of authority. After a decade of central planning and the imposition of controls (particularly land-use) on individuals, industries, and municipalities, the province found itself engaged in angry battles with newly formed regional governments and engaged in confrontations with municipalities, preferring either more or less growth than the province's planners believed to be warranted. As a result, there was by the mid 1970s a reluctance by the province to further impose a centrally directed master plan on the people of Ontario. The Deputy Minister of Energy said: "There is no clear thrust in Ontario as far as regional planning [is concerned]. I think what has happened since Design for Development [is that] the bureaucracy and the public have modified their appreciation of how difficult land-use planning is in a Province which doesn't like centralized direction and control."[6]

A review of the planning activities in the last decade suggests that the government put in place institutions and processes to assist in planning and making policy, and encourage greater public participation in planning. On the other hand, such a review also suggests that these institutions have not been extensively used other than on an *ad hoc* basis, that the planning processes were predicated on past trends and therefore were not responsive to change and uncertainty, that public participation often occurred at blatantly inappropriate times and did not involve the full range of players, and that the processes lacked an appropriate mechanism to integrate the multitude of planning activities.[7] In addition, it stresses that the province has been prepared to provide policy direction to Ontario Hydro in financial planning but has been reluctant to provide policy in the land-use area, particularly relating to the siting of generation and transmission facilities.

Ontario Hydro Planning

Faced with planning uncertainties, Ontario Hydro itself found it necessary to begin a process which it hoped would lead to the acceptance of a plan. The need for such an initiative was highlighted in 1975 by Dr. Omand Solandt when he reported on the routing of a 500 kV line between Lennox and Oshawa. He stated that:

> In an ideal world ... Ontario Hydro would already have presented a complete outline of all its plans for the next 20 or 30 years. These would then be fully discussed by the public and co-ordinated with all other projected land-use plans, before any specific projects were approved. Unfortunately, no detailed long-range land-use plan for Ontario yet exists. Both the rate and the location of growth in population and industry are uncertain, so Ontario Hydro must guide its expansion by a series of plans

> that begin as concepts and become more and more precisely defined as the time for construction approaches.[8]

In 1974, the utility presented to the government a series of plans in a report entitled "Long-Range Planning of the Electric Power System" (556 SP), which contained its view as to the most desirable growth of the power system. The programme was of massive scale. It suggested that installed generation of approximately 75,000 MW be in place by 1995. Alternative sites for generation and transmission facilities were presented that would meet the needs of the expected urbanization, and technologies were selected of a type that, in the utility's view, would meet the province's objective to minimize land use and environmental impact. However, since 1974 it has become apparent that the stability sought for in the long-range plan has proved illusory, even for the short-term programme. Since that time, circumstances have altered so dramatically that the in-service dates of the committed programme have been extended by at least five years (Darlington Unit 1 is now scheduled to be in service in 1988), the four-unit oil-fired generating station at Wesleyville has been cancelled, and substantial excess capacity is foreseen for at least the next 10 years.

The concept of "fixing the future", of working with a master plan, seems inappropriate in today's complex and uncertain electric power planning environment.[9] Clearly, more iterative processes are necessary which will permit open discussion of needs and alternative methods of supply.

The planning of the power system, including consideration of alternative generation technologies and alternative transmission routings and voltage levels, was, until recently, primarily an internal function of Ontario Hydro, carried out by the System Planning division. Likewise, forecasting of electricity demand was an activity carried out almost exclusively within Ontario Hydro. It is only in recent years that the Ministries of Treasury and Economics and Energy have undertaken demand modelling to assist in assessing future electricity requirements. Public disclosure, including disclosure to government of long-range plans, was limited to consideration of individual projects, which required formal approval under the Power Corporation Act. The public outcry of the early 1970s brought about a change, not only in the extent to which Ontario Hydro disclosed and discussed its longer-term thinking about system plans, but also in the criteria it was required to use in its consideration of alternatives. Environmental and social considerations achieved a status that had previously been given only to engineering and economic criteria.

These changes are significant when one considers that Ontario Hydro projects of the early 1970s and the aggressive attitude of the utility provided the concrete example of centralized control, with little consultation with local government or citizens. It is not surprising that some municipalities, in response, passed by-laws attempting to limit Hydro's activities and some citizens called for inquiries, while industries angrily protested against rapidly rising rates. Concern about centralized planning continued throughout the Commission's inquiry, with many intervenors advocating greater decentralization to the point where "new electrical requirements could be planned and in many cases installed at the local level."[10]

The concern that was voiced to the Commission was foreshadowed in 1972 by Task Force Hydro when they recommended that:

> Ontario Hydro planners, in collaboration with Government at the provincial and local levels and with interested individuals and citizens' groups, develop an open planning process to produce economically and technically feasible plans for transmission and generation facilities acceptable to the public and with minimum adverse environmental impact.[11]

As a result of this recommendation, there was a recognition within Ontario Hydro of the need to work more closely with the public and with both the provincial and local governments. Hydro undertook a major programme of public participation. This programme was far-reaching; the elements are illustrated in Figure 4.1. The external teams consisted of representatives of government ministries and agencies that had an interest in a proposal, the citizens' committees represented a broad range of interests and groups in a community, and the provincial study committees were composed of participants from both local and provincial government and provincially based organizations, to address broad issues such as constraint mapping for transmission and generation siting.

In the course of the Commission's inquiry, considerable input was received from citizens with respect to Ontario Hydro's public participation programme. In general, there was support for the efforts the utility had made to involve the public, and especially for the informational and educational aspects of

the programme. Where there was criticism, it came mainly from citizens living in areas close to a proposed facility. Their views, which follow, are significant and merit consideration.

- Citizens should be given a better opportunity to participate in establishing the terms of reference for the study.
- More attention should be given to the selection of representatives to the study committees.
- Citizens need an opportunity to meet together independently of Ontario Hydro and to draw on outside expertise that is independent of Ontario Hydro.
- The chairmen of citizens' committees should be, and should be seen to be, independent of the conflicting interests represented.

Our observations have led us to conclude that Ontario Hydro and, in particular, those employees most closely associated with the public participation programme, have made substantial efforts to involve citizens more extensively in power planning. To our knowledge, few precedents existed in the early 1970s for participation programmes on the scale Ontario Hydro attempted. Experimentation was essential, and some disappointments were inevitable. The utility has displayed a willingness to adapt the participation programmes to meet the changing environment. However, it is subject to criticism for the extent of control that it attempts to exercise over the programme. At every stage, its hand was in evidence – the terms of reference, the participants, the schedule, and the topics all appeared to be carefully orchestrated by Hydro. In a bipartite or tripartite planning process more co-operative processes are essential. Ontario Hydro could continue to improve its participative programmes by relinquishing some control of the process to those citizens who will be most immediately affected. Education, information, and involvement are essential ingredients for acceptable electricity planning in the future.

At the staff level, the utility increased its liaison with government ministries in order to explain its programme better, and to seek clarification of new regulations affecting its projects. Much of the staff interaction was an attempt by the utility to gain a better understanding of provincial planning as it was being undertaken in the late 1960s and early 1970s. As one Ministry of Natural Resources participant indicated:

> Decision-making with regard to power planning must fully understand the implications for its planning of the growing level and complexity of society's dependence on a finite land and water resources . . . [and] the need for trade-offs to resolve land-use conflicts to be made openly, after consideration of all relevant facts and viewpoints, and of the long-term consequences of a chosen decision.[12]

But involvement of government ministry staff in technical/economic reviews appears to have encountered considerable difficulty. Ontario Hydro's chief economist commented, with respect to the System Expansion Programme Reassessment:

> It is very difficult for the government ministries to deal in the abstract with what we are trying to do and they are no different from anybody else in this kind of position, and I am not trying to say that they are . . . in order to get their comments . . . their analytic expertise requires . . . either that they have done some work in the area prior to this so that they have something concrete to talk to, or at least have some reasonable solidified ideas, or it is the other way around, that we have some ideas on paper that we can talk to . . . we found a great deal of difficulty in talking hypothetically.[13]

Nonetheless, it would seem that many ministries have already established channels of communication with Ontario Hydro for purposes of their day-to-day regulatory responsibilities, or for purposes of review required under the environmental assessment process, which could be utilized in more formalized processes related to a "system plan" review approval process.

We have concluded that a more clearly identifiable co-ordinating function is probably required, as is some established procedure for public involvement, although an attempt should be made not to impose excessively formal or rigid structures upon already functioning informal lines of communication. There may be merit in having an ongoing staff level committee drawn from government ministry staff to deal on a regular basis with Ontario Hydro issues that are of mutual concern.

On the matter of local involvement, it is expected that, given the trends of the last four years, Ontario Hydro will consult local governments more and more about matters influencing the demand and supply of electric power. We strongly endorse this direction, placing particular emphasis on an increased role for Hydro to work with municipalities on information dissemination relating to electricity use, on demand management and similar measures to minimize the need for new facilities, and on greater involvement at the official plan stage to give municipalities an earlier indication of the future supply requirements and the alternative means of supply.

While the local efforts in the area of electricity conservation and small-scale supply will inevitably involve local and individual action, there must still be mechanisms to assess the trade-offs between supply and demand initiatives in a way that takes provincial policies into account. Delegation of decision-making to the local level could lead to inadequate weight being given to effects that are felt regionally or provincially.[14] Decision processes should allow all points of view to be brought forward so that provincial and local concerns can be brought to the attention of the ultimate decision-makers. The need for an appropriate institution to provide integration and to focus on the issues is paramount.

Ontario Hydro's Long-Range Planning

At the outset of this chapter we suggested that the concepts of Ontario Hydro are probably more "real" to the people of Ontario than the goals and objectives of government ministries, because of the visible evidence of transmission lines and generating stations. Such projects have a longer lead time than virtually any other projects planned in the public or private sector. They also have a relatively high level of publicity, which may have added to the feeling that Hydro is "leading" provincial planning, and that its long-range plans are so far ahead of everyone else's that they are virtually impossible to relate to effectively. The plans in themselves have become part of the problem; public fears are sometimes aroused by details that are cited only as indicators, and inadequate time is allowed for considering the development of the power system in an integrated manner.

Ontario Hydro has, in recent years, made a number of attempts to set out in alternative scenarios its long-term thinking on the development of the power system. While these attempts indicate that there have been changes in the planning processes of the utility, there is little evidence that there has been any shift in the planning concepts. To illustrate, two approaches to the analysis of the "system plan" that have been undertaken by Ontario Hydro will be described.

Land-Use Plans and the System Plan

The 1974 report, "Long-range Planning of the Electric Power System", discussed the factors that must be taken into account in the long-range planning process, the constraints that must be observed, and the options and trade-offs available, and in doing so it presented several alternative plans for long-range development. The report's key conclusions were that the future pattern would be composed of large centralized generating stations fuelled by coal and uranium and linked by 500 kV overhead transmission lines in a province-wide grid. This pattern, predicated on a load growth scenario of 7 per cent per annum, required a number of new sites to contain the generating capacity in "energy centres".

Ontario Hydro's attempt to determine what constitutes a reasonable cost for the provision of electric power introduced questions that have become familiar, concerning environmental standards and trade-offs, capital expenditures, and reliability. In documents provided later, during the Commission's information hearings, Ontario Hydro presented an extensive review of its current planning assumptions. An overview document, "Planning of the East System, Part 1", drew from other submissions made to the Commission by Ontario Hydro, and presented alternative system plans, most of which assumed a growth rate in the order of 7 per cent, and all of which assumed the validity of the planning concepts stated in "Long-Range Planning of the Electric Power System" with respect to scale, general type of facilities, and cooling systems. These concepts, developed initially within the framework of a steady 7 per cent exponential growth rate and the attendant pressures and constraints of technology and society, had attained a momentum of their own, even though by late 1977 evidence was mounting that the long-term growth trend was declining. Alternative system plans were merely different arrangements of large generating stations and transmission lines. These documents gave little information about social and environmental impacts. The key information about these impacts, as they relate to large centralized fossil-fired and nuclear stations, was produced in Part 2 of the same study, which was released late in 1978. No assessment was made of the impact of a decentralized system using a large number of small units. The absence of thorough analysis of the decentralized or small-scale alternatives caused concern to be expressed by some intervenors and by RCEPP staff, who questioned whether Hydro had really heard the public concerns that were being presented to the RCEPP. The absence of this analysis tended to reinforce the view that the utility was determined to put in place the kind of system it had chosen years before, and was unprepared for external advice.

Even so, it is our conclusion that information on impacts provided by the utility, although more limited than that sought by many intervenors, could provide a useful focus for open discussion. Above all, open

disclosure places Hydro's arguments for large central systems into a consolidated format suitable for analytic comparison with other technological options.

The System Expansion Programme Reassessment

The System Expansion Programme Reassessment (SEPR) was initiated in October 1976 in response to recommendations from the Select Committee on Hydro Affairs made earlier in 1976 for cutbacks in the system expansion programme, amounting to the equivalent of one station by 1985, coupled with an aggressive conservation and load-management programme. It emphasized the financial and economic rather than land-use aspects of system planning. The scope of the study was ambitious and expectations for "setting a pattern for the future" were high. The early emphasis of SEPR, in the light of the then current load forecast, was on an assessment of the risk of an inadequate supply of electricity. This assessment was overtaken by events. In particular, the 1978 load forecast was much lower than the most probable scenario of SEPR and reduced the risk of black-out to near zero until the mid 1980s. The study subsequently underwent some revision to accommodate the new prediction of load growth, and the high scenarios of 7 per cent and 10 per cent growth were abandoned. But in this extended process Ontario Hydro seemed to depart from the initial concept of "load plans" and associated programmes for conservation and load management, despite continued public interest in that concept and parallel claims that Hydro's energy conservation efforts were helping to reduce requirements for electricity. Hydro appears to have chosen to extend the engineering and financial analysis with which its staff were more comfortable in preference to attempting non-centralized scenarios. Nonetheless, it is optimistically asserted by Hydro that "SEPR-type studies will be ongoing and will include consideration of the effects on electric power planning of a wide range of energy options including end-use considerations."[15]

In short, the principal problem of these major planning studies is their rigidity and therefore their inability to provide policy alternatives in times of uncertainty. The alterations that have been required in the light of the recent load forecasts suggest that studies such as that of the East System and SEPR are too comprehensive and time-consuming. They produced information that was decreasingly relevant, and gave little sense of the interaction of variables such as load, reserve margin, unit size, and price. More important, they were not adaptable to altered planning conditions and they are not open to public review. Acknowledgement of some of the shortcomings of the present planning process was made by M. Nastich, Vice-President of Operations at Ontario Hydro, when he stated, "Uncertainty is about as high in the utility business as it is... in any business and will continue to be so. One of the difficulties is to find ways in which we can decelerate as well as accelerate programmes."[16]

But when asked if the expansion programme should be reviewed on a continuing basis, Nastich noted:

> One of the factors which a utility has to face is that its time constant... is fairly long. That is, a continuous review of a system expansion programme is like a continuous medical examination; you don't have time for anything else.... RCEPP is the first hope we have of having a long-term path charted for power planning in Ontario. The SEPR mechanism allows the corporation to analyse various options, come up with a programme, and recognize, within limits, that the programme has to go from station to station. I think the decision-making process is there in the Hydro and in the government. If, at some time, there is a feeling that there should be another change in basic direction, then it seems to me another form of RCEPP could do it.[17]

Nastich was suggesting that in a given time period a pattern should be set around which the utility can plan. However, it seems increasingly evident that the establishment of a single rigid plan is both impossible and undesirable. A theoretically optimal system, as determined under assumptions of certainty, may be overtaken by circumstances beyond the planner's control. Attempts to establish certainty beyond the limits imposed by the context will be futile and may meet with resistance from the public. Continuing change and uncertainty make a continuing and integrated planning process necessary. A long-range plan must be made, but it must be an evolving one. Ontario Hydro must make decisions about the present and the near future on the basis of the best available forecasts, and a concept of the future power system that includes the best current views on the future and provides a rational backdrop for incremental decisions.

To facilitate such a process, Ontario Hydro should make public on a regular basis its forecasts and system plan documents. Hydro's forecasts and system plan are, in fact, continually reviewed within the organization, with its long-range forecasts, as approved by the Board, constituting a corporate view of

the future system plan and incorporating basic long-term assumptions as to mix, scale, and shorter-term assumptions on particular sites. The chief emphasis of Ontario Hydro Board decisions is on immediate problems, and the long-range forecast is considered a planning document, to be utilized primarily for managing the system, approving rates, approving capital borrowings for the next year, and planning the next increments of generation and transmission. System plans that incorporate broad planning assumptions provide a general indication of the pattern of the future and a necessary context for individual decisions. Even if planning concepts could be agreed upon in order to leave Hydro free to plan and operate the power system without regular public hearings on the long-range plan, the changing character of even committed components and the ongoing requirements for specific reviews (rates, siting, etc.) suggest that a minimal requirement is for clear, regular reports to government and open disclosure of these to the public. Without these, it is difficult to see how emergent constraints can be identified in advance of crisis situations.

Projections 20 years and more into the future have been provided for different hearings over the last four years, and the analytic and computer basis either exists or is being developed within the organization to provide financial models, capital expenditure models, and fuel-forecasting models on a regular basis. Several documents which provide future projections are routinely filed with the Ontario Energy Board, as support for rate applications. This, in our view, is an encouraging sign and should establish a foundation for the preparation of similar documentation that would be relevant to longer-term planning.

CHAPTER FIVE

The Planning Process for The Future

What follows is a proposal for institutions and processes to meet the challenges of electric power planning during the next two decades. It is directed particularly towards making the decisions that were described in Chapter 1: decisions about the need for facilities, about the general nature of a system for generating and transmitting electric power, about the impacts of the facilities on the environment, about locating the facilities and especially minimizing the local impacts, about financing the system, and especially about Ontario Hydro's borrowings and the rates to be charged to its customers. The proposal presented recognizes the fundamental responsibility of government to shape the future electric power supply system for the province. At the same time, it recognizes the need for increased openness and greater involvement of citizens.

In Chapter 2 we presented principles that are important to the development of an appropriate system. We suggested that general energy policy must be made and that it must be effective. We also suggested that government must be responsible for this policy and must design institutions and procedures that will accommodate change in both context and policy. Innovation will be essential for the future of our energy system, but at the same time that innovation is encouraged procedures must be developed that minimize delay and present decisions in a rational order. Finally, we suggested that the institutions and procedures must be open and must permit and encourage public participation.

Our assessment of the existing institutions and procedures is that they are not open, they are not integrated, and they do not create a comprehensive general planning process. Some efforts have been made by Ontario Hydro and the Ministry of Energy to accommodate some of these principles, in particular the need for access to understandable information and the need to integrate the various energy supply systems, but the present arrangements do not accommodate all of the participants in an integrated and comprehensive process that moves from general planning concepts through to final decisions on implementation and operations. The Ministries of Energy and the Environment have attempted through the development of an interim approvals process (see Figure 5.1) to reduce some of these difficulties, but evidence suggests that change is still necessary.[1]

Fig. 5.1: p. 46

We have also observed that the arrangements for making decisions about individual facilities are unnecessarily complex, overlapping, and unco-ordinated. This is not the fault of any one organization or piece of legislation; instead, it is caused by a growth of scale and a desire to service the people of Ontario with a reliable power supply. Legislation that was appropriate for considering the development of the power system on a facility-by-facility basis is no longer satisfactory for considering the development of the system on a massive system-wide basis. Difficulties also arise because the consideration of individual facilities is not made in an open manner, and not related effectively to general policy. Throughout the Commission's inquiry, questions were raised about the integration of Hydro's individual facility planning with its longer-range plan, or alternatively with some broader provincial planning concepts.[2] Clearly, there is a need for an appropriate form for discussion and for the integration of such complex matters.

Today, the challenge is to develop institutions and processes that can operate in the context of complexity, change, and uncertainty, and at the same time be responsive to social interests. Today, with rapidly rising fuel costs, uncertainty about fuel availability, increased use of complex technology, and, most critically, the importance of a reliable energy supply to the economy of the province, it is more than ever essential that arrangements be developed that allow a rational development of Ontario's power system. However, since it is difficult to define with precision the nature of the issues that will face Ontario Hydro, the Ontario government, and the citizens, it is essential that the system be open and responsive. It must accommodate changing value systems.[3] Today, the citizens of Ontario are becoming less passive about their role in the development of the electric power supply system. The Royal Commission has acknowledged that the various publics want and should have a voice. The impact of the bulk power system is so great that the decisions cannot be left to a select few. Clearly, fundamentally different perceptions of values and life-styles will radically alter the future relationship between the citizens and Ontario Hydro.

The interdependency of issues, the changing value systems, and the increase in demand for citizen involvement clearly point to a greater involvement of government in the future planning of the

electric power system. The uncertainties will challenge the decisiveness and responsiveness of government and will challenge future relationships between government and Ontario Hydro, especially respecting the environment, economics, and social development.

The Decisions to be Made

In Chapter 1 we presented a short description of the decisions that must be made about the power system, and this section is a more extensive discussion of the decisions the process must accommodate and therefore an expansion of the earlier discussion. It is useful to group the decisions into five categories:

Need. This is the question of how much generating capacity will be required at some future time to satisfy the many end uses of our society. Determining need has traditionally been done by making forecasts of demand, better known as "forecasting", and making minor adjustments, such as an addition for reserve capacity. Evidence from the Commission's hearings suggests that the forecast of demand will continue to be a useful tool of Ontario Hydro for making decisions in the short term about such matters as rates, capital requirements, and organizational requirements; it will also be useful as a starting point and as a major element for planning for the longer term. However, for planning, a wider range of considerations is needed than those that have traditionally been embodied in the forecast of demand. These broader considerations which will complement the traditional demand forecast are major policy questions about security of energy supplies, economic development, environmental protection, health and safety, and ultimately the fundamental question of the kind of society that we wish to have. This last question is particularly pertinent to questions about centralized and decentralized power systems. Perhaps decisions about the kind of society may limit the alternatives for generation of electricity that will be permitted. It is possible that these wider considerations might be included in the forecast of demand, but these particular policy areas must be more explicitly isolated so that they can be clearly perceived, understood, and incorporated into the design and functioning of the decision-making institutions.

The Nature of the System. The second kind of decision concerns the nature of the system for the generating and transmitting of electric power, and particularly the size of the generating plants, the design of plants and especially the type of fuel to be used, the nature of the transmission network, and the location of the facilities.

The Environment. The electric power system, whatever its design may be, will inevitably have some impact on the environment, and different systems will create different kinds of impacts and present different problems. For example, the environmental issues associated with coal technology are considerably different from those associated with nuclear power. Construction and operation of proposed facilities require choices to be made about the degree and form of impact that society is willing to accept, balanced against the benefits that they can provide. These choices are implicit in decisions about need and the nature of the system, but since the environmental implications of any electric power supply may extend beyond the decision about need into questions of location and regulatory standards, they must be isolated for perception and emphasis.

Location. Electric power facilities, whether small or large, must almost always be located somewhere other than on the immediate users' property. As a result, their local impact may be perceived to be harmful and disproportionate to their benefits, particularly in the case of large facilities. Where there are no employment benefits or possible long-term economic gains, as is the case with transmission lines, the perception of harmful effect may even be stronger and hard choices will have to be made about the siting of the facilities. Such decisions are a more site-specific form of environmental decision, and therefore they are often hotly debated and must be dealt with separately.

Financing. Decisions about financing the power system fall into two categories.

1. Decisions about Ontario Hydro's borrowing. Because the borrowings are large, their effects are significant not only for Ontario Hydro but for the economy of the province generally. Therefore, fundamental decisions must be made about the financial policy of both the utility and the province. In particular, decisions must be made about how much money Ontario Hydro should borrow, and on what terms.
2. Decisions about the rates to be charged by Ontario Hydro. These decisions fall into two subcategories. The first concerns the amount of money needed for the various expenses of the utility,

including the financing of the capital programme; the second concerns the structure of the rates, that is, how the total requirements should be allocated throughout society.

Two characteristics of the aforementioned decisions are significant for the design of the institutions that will be called on to make them. First, they can all be made either in general terms, as general policy, or in terms of individual facilities or groups of facilities. For example, decisions about need can be made either in terms of a need for a certain number of megawatts at some future date or in terms of a need for a particular facility; decisions about design may concern the ratio of coal to nuclear generating capacity in the future or the fuel to be used in a particular plant; and decisions about the environment, and particularly about siting, may be general policy decisions or decisions about a particular facility. For example, a policy could be established never to use Class 1 or Class 2 agricultural land for transmission lines unless the need is great, or it could be decided to consider each case separately after reviewing the expected local impact. Finally, a decision about rates may be made as general policy, of the sort that may result from the current debate about the use of marginal cost pricing, or it may be an application of policy to a proposed rate change.

The second characteristic of these decisions is that they are all interdependent. This interdependence is manifested in three ways: in the relationship between general policy and individual decisions, in the relationship among the decisions (for example, decisions about need affect borrowing, decisions about design affect location, and decisions about environmental limits affect design), and in the relationship among decisions in the past, present, and future. For example, construction commitments made in the past constrain choices about design and the environment in the present, and affect rates in the future.

Making Policy

Throughout this volume, emphasis has been placed on the need for a general policy framework against which the planning and implementation of the electric power system may be undertaken. The need for a general policy was expressed to the government in the early 1970s by the Advisory Committee on Energy, by Task Force Hydro, and by the Honourable Darcy McKeough in his report on energy. Continued emphasis on this need is required, for even during a period of declining load growth there exists a need for general policy about the development of the power system. Ultimately, government must take responsibility for policy because electric power is important not only to certain geographical areas, industries, activities, and groups but to Ontario society generally.

In the past, Ontario's electric power decisions have been made in a closed manner within Ontario Hydro and between Ontario Hydro and the Government of Ontario. Hydro has been the principal designer, builder, and operator of the power system and the chief adviser to government on the need and timing of new supplies, the type of facilities that should be put in place, and the location of these facilities. As a result, the government's consideration of electric power planning has been limited to the data provided by Hydro. However, government, members of the Legislature, and the public have become increasingly uneasy about this relationship. There is a growing recognition of the pivotal role electric power developments play in our economy, our environment, and our social welfare. These are important public policy decisions, suggesting that the long-term social and environmental implications of Hydro's projects, the suitability of other energy forms and their implications to decisions about electric power developments, and other related policy considerations should be assessed in an open and comprehensive form.

The need for a general policy is not a need for a master plan as envisaged by the planners in the mid 1970s. History has proved that such a plan is unattainable and in any case undesirable. Nonetheless, general concepts should be continuously debated and evaluated, separately as well as in conjunction with individual projects. What is required is an interlocking process that allows consideration of the cumulative effects of individual projects and evaluations on a project-by-project basis in which specific decisions can be justified as part of an evolving framework.

Government must display leadership in resolving the public policy issues, and doing so at an early stage in order to reduce the inefficiency that characterizes the planning processes at present.[4] Improved sequencing of decisions will enable the government to make some fundamental policy choices before the planning for individual facilities is begun. Clear public policy guidelines made at an early stage of a proposal for a new facility would reduce the research resources required by the utility (by limiting the alternatives), help the utility to present a desirable range of alternatives, and improve the effectiveness of public input by focusing it on specific issues. An open, comprehensive, and rational process would

ensure that the choices are not made by anonymous decision-makers and then exposed to the glare of public scrutiny without government guidelines and without the sort of accountability that is necessary to make them official. Openness and an appropriate ordering of decisions will be essential to the decision-making structures for the future.

A Decision-Making Structure for The Future

The government must be ultimately responsible for policies concerning the power system, but government alone cannot create the policies. There is a need for an institution that is open, that can generate discussion and proposals about the development of the power system, and that can do general thinking about the need for facilities, the nature of the system, and the environmental impacts. At present, the principal responsibility for policy-making in energy is assigned to the Ministry of Energy. The creation of this ministry provided an opportunity for integrated consideration of a wide range of energy supply options. It also created a basis for sector-by-sector research into future energy requirements. The ministry has a small stock of resources with which to consider energy policy in the conventional energy sectors and a research wing that can effectively estimate future energy requirements. It also has a branch that considers conservation and means of reducing future energy requirements through both legislative and voluntary means. Conservation efforts have been directed principally at non-electric areas, and the electrical conservation areas have in the main been left to Ontario Hydro. The conservation branch has directed its activities to funding demonstrations of solar energy, both active and passive, insulation programmes, and research on urban zoning, transportation, and building standards. It has had primary responsibility for the co-ordination of the energy management programme.

While the thrust of the ministry's activities is directed towards energy policy, its role is limited by its structure and political functions. Because it is a small ministry and operates in an area of high public visibility, most staff efforts are directed towards the short-term problems. As a result, its activities often appear abrupt and inconsistent. Its political functions limit its interaction with the public. In particular, it does not hold public hearings and does not seem to be independent of the day-to-day emergencies of the political process in considering matters relating to the long-term development of electric power. Clearly, the existence of the Royal Commission and the Select Committee indicates that a public forum to consider the longer-term development of the power system and Hydro's role in that development could be helpful for the future.

History suggests that Ontario Hydro may be able to perform the required proposing and discussing role. However, such an allocation of responsibility would be inappropriate, for on such matters the utility could be neither open and independent, nor politically accountable.

The institution that is needed would not be opposed to, or in conpetition with, the ministry, but rather complementary to it. Its functions would be to listen, to gather information, to monitor research, and to make proposals to assist the minister and the ministry staff in the development of policy. Its existence would acknowledge that concepts cannot be settled once and for all, but must rather be part of an ongoing, evolving process. It would be a principal means of addressing generic issues (that is, issues that are likely to be common individual projects), reviewing the load forecasts and proposed expansion programmes of Ontario Hydro and other electricity suppliers in the province, and providing public input about alternatives to expanding the electric power system. Most important, it would allow for comprehensive review – that is, review of the electric power supply requirements and proposed facilities to meet those requirements in the light of socio-economic, environmental, technological, financial and other general policy considerations. In effect this institution would provide a "single" window to the regulation of electric power developments in the province.[5]

In the light of the government's programme of constraint, and of its desire to limit the growth of new agencies and the size of the public service, the possibility of using an existing agency and modifying its functions to provide for this more comprehensive review has been considered. Two agencies that have been considered are the Environmental Assessment Board and the Ontario Energy Board. Each has limitations. Given the environmental assessment legislation, the Environmental Assessment Board appears to be an appropriate institution for a comprehensive review on a facility-by-facility basis. However, a rational decision process requires consideration of long-range planning concepts, and these cannot be considered properly solely in the context of individual facilities. Some topics must be considered on a generic basis, and, more generally, specialization and an accumulation of experience and expertise are required. In addition, electricity supply alternatives should be considered in the

context of other conventional and alternate energy supply options and conservation programmes. As a result, we have concluded, the Environmental Assessment Board is not an appropriate agency, considering its resources, potential expertise, and orientation.

The Ontario Energy Board also has severe limitations, but they are principally procedural. The procedures of the Board have become formal and legalistic, and have not encouraged effective public participation. This was a major factor in the decision to establish the Royal Commission on Electric Power Planning rather than assign the task undertaken by the Commission to the Board. However, we have no doubt that modification of the Board's procedures is possible. The Board in its past hearings has recognized the need for comprehensive review, it has accumulated data and expertise in other energy areas that would be helpful in considering the role of electricity in Ontario's energy mix, and it has developed a healthy working relationship with the Ministry of the Environment in other areas of its jurisdiction, particularly hearings relating to pipeline applications.

Instead of establishing a new body to perform the functions described above, the government should expand the responsibilities of the Ontario Energy Board to perform this essential role. To signify a break from the past and provide a broader planning responsibility embracing a policy advisory function as well as the traditional regulatory function, the Ontario Energy Board should be renamed the
Fig. 5.2: p. 47
Ontario Energy Commission (see Figure 5.2). Independence of the commission is essential. It should report through the minister to the government and to the legislature. While it should form part of the Ministry of Energy for administrative purposes, it should not be or be seen to be part of the departmental structure of that ministry. Core funding of the commission's operations should come from the consolidated revenue fund while funding of the commission's costs for individual hearings should be charged to the applicant. The commission should be supported by a slightly larger staff than that of the existing energy board.[6] Outside expertise would often be required to ensure that members obtained comprehensive information and perspective. It is our belief that this expertise should be hired on a contractual basis as required, and its evidence presented directly to the proposed commission in public hearings.

The Policy Advisory Functions of the Proposed Energy Commission

The proposed commission would have a dual role. It would make proposals for general policy about energy matters, with particular emphasis on electric power supply and management, and would also consider applications for individual electric power facilities. There are precedents for the dual advisory and regulatory functions. In Alberta, the Alberta Energy Resources Conservation Board currently performs similar functions. At the federal level, the Canadian Radio and Television Commission also performs a dual function.

This section will provide a description of how general policy is proposed, and the next section will describe the processes for individual facilities, but, again, it is necessary to emphasize that these decisions are interdependent. This interdependence raises issues about the context in which general policy should be made. In particular, it raises the issue of whether general policy should be determined separately or in the context of decisions concerning individual facilities. It was suggested in the preceding discussion that many points of general policy cannot be settled in the context of individual facilities, but discussion of this was postponed until now, because it is such an important consideration in the designing of the functions of the proposed commission. In particular, our concern is that for some decisions the application for approval of an individual project may come too late and choice at this stage may be too confining. As a result, alternatives may be foreclosed or apparently remote issues may be crowded out by specific aspects of a proposal and urgent requirements to proceed with an undertaking. Therefore, some general issues, because they are general to our energy supply, are broad and may go well beyond a specific project, and because their consideration might be long they lend themselves to independent resolution. Others are best considered in the context of a specific proposal because, to be seen clearly, they require the focus of a practical application and the creative tension that goes with it. More important, if only one or two types of facilities are going to be built during the next two decades, hearings and decisions about them that are not associated with specific facilities are likely to seem unrealistic and useless. It is clear that the arrangements for the future must be flexible.

The central policy-advisory function of the proposed commission should be to make periodic and comprehensive reviews of electric energy. The periodic review should lead to the preparation of a major report, which should be a comprehensive planning and forecasting assessment encompassing every major issue affecting the supply and demand of electric energy. The report should be an extensive

policy-oriented research document that would assist government in policy formulation and serve as a central working document for the government, members of the Legislature, staffs of the Ministry of Energy and Ontario Hydro, and the public – all of whom should be able to rely on its contents when attempting to determine how the province's future electricity requirements should be met.

The timing of the periodic comprehensive review was a matter of considerable discussion during the RCEPP's inquiry. Numerous submissions suggested that there should be an annual review of Ontario Hydro's long-range plans. Many intervenors suggested that the public hearings associated with these reviews should culminate in the preparation of a report on Ontario Hydro's long-range plans, which would be presented either to the minister or directly to the Legislature. Some suggested that, as part of the preparation of the review, or as a result of the report, the proposed commission should sponsor an annual energy convention open to all interested parties in the province. In our opinion, a yearly review would be far too frequent and a review that concentrated only on Ontario Hydro would be undesirable. Given Ontario's current load-growth trends and the range of supply options available, greater flexibility should be shown, not only in the focus of the review but also in its timing. It is our belief that a review undertaken every five years would be suitable. However, to provide flexibility, the Minister or the commission should have power to shorten this period. Also, both the Minister and the commission should have the power to study any of these topics separately, and at different times, for convenience and in order to respond to change. For example, changing conditions might lead to a need for a more frequent review of the load forecast or of a particular technology.

The review process would commence with a request by the commission to Ontario Hydro and other electric power suppliers for their forecast of electricity demand and alternative proposals for supply facilities to meet the demand, and requests to the Ministry of Energy and any other interested groups for submissions.[7] The submissions would be distributed widely to registered interest groups and to government ministries. They would be thoroughly assessed by the staff of the commission. The staff assessments, together with the other submissions, would then be open for public discussion and hearings, workshops, and other appropriate review mechanisms. With the benefit of a broad-based review, a report would be prepared for the government.

Contents of The Review

Determining the need for electricity is at the core of power planning. Forecasting future need is especially difficult and important because of the long lead times required for planning, approving, and building generation and transmission facilities. The study of the need should not be narrowly confined to the need for megawatts and thus the need for generating facilities. It must also include comprehensive discussion of transmission requirements, particularly in the light of Ontario's policies relating to interconnections with neighbouring utilities and the importance of adequate transmission capability to ensure a reliable supply to Ontario customers.

At the present time, there is no open and comprehensive process for establising "need for power" that takes into account the full range of load options, the costs and benefits of different reserve margins, the appropriate fuel type and station size, and the socio-economic costs and benefits of different rates of capacity growth. Such a process is needed, and the review should be the principal element. Its function should be similar to the assessment undertaken on a biennial basis in California by the California Energy Commission in "an attempt to balance the need for facilities based on growth and development, and the requirements to protect public health and safety, preserve environmental quality, maintain a sound economy, and conserve energy and resources to the greatest extent possible."[8]

The proposed commission should take into account a wide range of considerations, for example, provincial and regional growth and development, protection of public health and safety, preservation of environmental quality, maintenance of a sound economy, and conservation of energy and resources. Such a range of factors is broader than the range traditionally considered by Ontario Hydro. In the future, the decision-making power of the Board of Directors of Ontario Hydro should be limited to internal economic assessments. This limitation will clearly establish the commercial function of Ontario Hydro, and terminate its recent tendency to take responsibility for socio-economic considerations, which has led to confusion about its role.

The report to the Minister must contain the criteria for the need for new facilities during the coming planning period. These criteria are the conditions that may make new facilities necessary, including evidence of inadequacies in the existing power system, evidence of desirable substitutions to avoid excessive use of certain fuels such as liquid hydrocarbons, evidence of significant changes in regional

economic activity, and evidence of firm government policy, for example, concerning the export of power to neighbouring jurisdictions. If these criteria are presented in sufficient detail, the consideration of an application for approval of specific facilities will be more efficient and purposeful. The criteria of need should serve as notice to the public, to Ontario Hydro, and to the government of the expected size and character (based on end-use analysis) of Ontario's electrical needs. They will also provide a basis for the full consideration of alternative scenarios in which the demand would have to be significantly constrained, or in which the province might undertake a major programme of electricity substitution.

The Nature of The System

One of the major undertakings of the proposed commission would be an assessment of the electrical and other technologies that might help to supply Ontario's energy needs in the future. The purpose of this assessment would be to advise government about technologies that are technically, environmentally, and economically viable, and can be considered as alternatives when an application has been made for the approval of a new facility, and also about the need for further research and development to advance other technologies to the stage of large-scale commercial application in Ontario. The study of technological possibilities should be comprehensive and should include possibilities that are not mere extensions of traditional complex centralized systems.

Some issues about the acceptability of a technology may be limited to a particular site (i.e., thermal discharge) but others tend to transcend the site and are common to all proposals related to that particular technology (i.e., radioactive waste disposal). Consideration of these broad issues at the time of an application for an individual facility usually comes far too late in the decision process. Evidence from the State of New York and from the State of California indicates clearly that attempts to deal with these common or generic issues at hearings concerning individual facilities have resulted in an unreasonable burden on the utilities, the staff of the regulatory bodies, government departments, and the participating public. This is why it is important for the proposed commission's review to include an extensive discussion relating to each technology's costs (both capital and operating), health and safety implications, environmental implications, and the implications for the existing system, which already represents a substantial investment. There must be an assessment of whether the proposed facilities are additions to or departures from the existing system, and, if they are departures, whether they will need some additional infrastructure. If so, the implications of any new infrastructure for the existing system must also be assessed. The review should also take into consideration the timing of the development of new technological possibilities, in terms of research, development, and demonstration as well as commercial availability.

The importance of the proposed commission's views on new technologies cannot be underestimated. For those immediately affected by large-scale power projects, the expectation that some new, often small-scale, benign alternative will be capable of meeting the province's future energy needs often heightens the anxiety associated with traditional development occurring in someone's "backyard". The result is usually protracted adversarial hearings at the time of application for approval of a specific facility. Indeed, evidence from the RCEPP's hearings and from media reports demonstrates that many persons are convinced that certain new technologies are available now, and that all we need is the will and foresight to implement them. Others place no reliance in improved technologies. It is essential that independent assessment be undertaken, and the proposed commission should therefore pursue these new options, so that they will not be dismissed without a fair hearing, merely because of the lack of certainty that conventional options have. In Ontario, we are faced both with a need for certainty and a need to pursue some unconventional alternatives that have traditionally been excluded from consideration because of the overpowering emphasis given to larger and larger centralized facilities whose worth has been predicated on conventional thinking about economies of scale.

The Environment

A significant component of the proposed commission's review should be an assessment of the environmental implications of alternative technologies. Obviously, environmental implications have to be part of the technological assessemnt, but they should be presented separately, for emphasis. As we have indicated, many *ad hoc* studies which have preceded the RCEPP, including those undertaken by the Advisory Committee on Energy, Task Force Hydro, and the Honourable Darcy McKeough, have stated the importance of environmental assessment when energy options are being considered. Clearly this need will continue in the 1980s. The proposed commission should study and make recommendations

about ways of mitigating adverse environmental effects, the kinds of trade-offs that should be made, and, in particular, the distribution of the harmful effects and the responsibility that should be assumed by Ontario Hydro for the consequences of these effects.

In the environmental area it is often difficult to make precise rules about trade-offs. However, general statements of attitude and concern can be useful as a guide for planning and making decisions. For example, the proposed commission might clearly state its position on the use of Class 1 agricultural land or on the siting of facilities in environmentally sensitive areas. Its views would be most useful to the government and could contribute to the formulation of a policy. clearly, the Commission should not be silent, for timely statements of its views might serve to shorten the lead time when an application from Ontario Hydro or one of the small utilities is being considered.

The Search for Power-Plant Sites and Transmission Routes

There was substantial evidence at the Royal Commission's hearings that Ontario Hydro has had considerable difficulty in locating enough suitable sites for new facilities. Individuals and communities are understandably reluctant to accept the adverse local effects of a facility that will be of chief benefit to those living hundreds of miles away. The tendency of Ontario Hydro to use larger and larger facilities has brought it increasingly into conflict with those who depend on the availability of land for agriculture, residential growth, recreation, and some forms of industry, especially forestry.

The proposed commission's review should contribute to efforts to minimize this problem by the early identification of potential sites and suitable transmission routes. For example, its report should contain maps and information about areas that are appropriate for additional generating plants and transmission corridors, or an indication of how utilities might make more effective use of lands that are already in their control. The report might also explain the general characteristics of the facilities that might be placed on these sites and routes, to give adequate advance information to the inhabitants of the area.

It must be emphasized that the review would not determine the precise nature and timing of individual facilities. This would be done after consideration of the application for each facility. However, the report would provide a context for general policy statements and would therefore establish constraints and limits; it might make some tentative proposals about alternatives; and it would set limits on the consideration of alternatives.

In conclusion, in relation to general policy it is worth reflecting on the fact that all decisions concerning the electric supply system are based on assumptions. Whether these assumptions emanate from Ontario Hydro and its perception about the energy needs of the province, or from those who see a different life-style and a different arrangement of our institutions, they are assumptions and no more than that. Many of them are based on research and probability analysis, but they are at best just forecasts of future conditions. Since they are assumptions about future electricity demand, about acceptable environmental conditions, and about the quality of life in the province, they are political in every sense of the word and should therefore be under constant review. If for no other reason than to consider regularly the assumptions underlying our electric power planning, it is appropriate to have an agency that will provide the means for open discussion of our energy future.

Decisions about Individual Facilities

Even during periods of declining load growth, decisions must be made about individual projects, for example, extensions of transmission lines, replacement of old facilities, and additions to existing facilities of Ontario Hydro and of the small utilities.

The decisions about individual projects should reflect general policy. They are part of a continuum that begins with the conceptual framework of the power system, moves to the general questions about technology and location, and is completed by decisions about the individual facilities. The decisions about the individual facilities should be the product of a process that has extended over years and even decades. However, some aspects of a project may make it necessary to reconsider certain aspects of the policy, because of changes in the content, or because of the unique or distinctive characteristics of the project. This reconsideration is both inevitable and desirable.

The decisions about specific facilities are in many ways further refinements of the decisions about general policy. That is, in considering a particular facility, consideration must be given to need, technology, environment, and siting. Need in this case has moved from a general need for additional

megawatts to a need for a specific facility at a specific time. The technological considerations will be about fuel, design, size, and the purpose of the facility within the overall supply system. The environmental and siting considerations will be about mitigation of environmental effects of the proposed facilities, about determination, of the appropriate location and about balancing the advantages and negative impacts of the proposal.

The decisions about major individual projects must ultimately be the responsibility of the government, and should be made in the context of the general policy that is being developed and articulated by the government. But, even though the decision is made by government, the process should be open, and therefore there should be public hearings. The hearings should be held by an independent agency, which should make a preliminary decision or recommendation. In the Ontario context, the issue is whether this agency should be the Environmental Assessment Board or the proposed energy commission.

The existing institutions and the expectations surrounding the passing of the Environmental Assessment Act (1975) suggest that this process of public hearings about individual projects should be given to the Environmental Assessment Board. Electric power facilities of any size and kind, no matter where they are put, will have some kind of environmental impact, and decisions concerning them are therefore the kind that the Environmental Assessment Board was designed to make and will be making about other kinds of projects. But, despite these expectations (and apart from the issues that were described in Chapter 4), the Board is not an appropriate institution for making these decisions.[9] The main reason for this is the interdependence of all the decisions, which has already been described. The decisions about the individual facilities, no matter how detailed, are interdependent elements of a larger and unified process. For example, the general policies have implications for particular environmental impacts; decisions about general preferences among nuclear power plants, coal-fired plants, and hydraulic plants must take into account environmental factors that will affect decisions about individual facilities. Conversely, the details of individual facilities, particularly the environmental tailoring, should be limited and shaped by the general policies. It is impossible to draw a line in this continuum separating the functions and jurisdictions in a manner that would provide a satisfactory assignment to two different institutions. If all the functions are to be held by the proposed energy commission, the distinctions will be essentially ones of timing. Moreover, assigning all the decisions to one institution, rather than dividing them between two, would permit expertise and experience about energy to be accumulated. It would also permit general policy to be determined in the context of decisions about individual facilities, if the institution decided that this procedure was appropriate. In short, the decisions about individual facilities should be made by the proposed commission, not by the Environmental Assessment Board.

However, this recommendation must not be interpreted to mean that the Ministry of the Environment should not be involved in these decisions. On the contrary, it should be deeply involved. Its experience, expertise, and enthusiasm would be essential, and might be employed in informal consultations and in participation in hearings.[10]

There are, of course, alternatives to this simple choice, notably joint hearings by the institutions and cross-appointments. Joint hearings would probably lead to a comprehensive investigation and give both agencies responsibility, but there would be disadvantages: procedures might be confused, because the agencies' needs, practices, and expectations might differ; the process would be expensive, because members and staff from both agencies would participate; and the process would tend to be complex, whereas there is a general need to streamline the decision process.

Cross-appointments could be a much more useful means of bringing experience to bear on an application that has been sent to the proposed commission. The details of representation should not be set out in legislation; instead, authority should be given to appoint appropriate members for specific hearings. Thus, if an issue under consideration involved significant economic or industrial concerns, it would be useful to appoint someone from the public or private sector with extensive experience in that area. On the other hand, if the issue involved some critical environmental matters, it would be useful to appoint someone from the Ministry of the Environment or the Environmental Assessment Board.

The process for considering applications should be substantially the same as the process established by the Environmental Assessment Act and should be written into appropriate legislation for the proposed commission. There should be an application by the proponent, a hearing, and a decision. The proposed commission should have the power to reject, to approve, and to approve with modifications and conditions. The Environmental Assessment Act provides for approval of the proposal by the Ministry before

the hearing. This ensures that the application will contain all the information necessary for a comprehensive hearing, but it adds complexity, is not open, and may tend to compromise the Ministry staff. Considering the specialized nature of these applications and the existence of "general policy", this step should not be necessary. General rules should be made that would enable an application for approval of an individual facility to be made with a minimum of consultation with the staff. Any decisions about the adequacy of an application should be made by the commission in an open process where rights are given to intervenors to comment on the adequacy prior to the commencement of a hearing.

Decisions about individual facilities should usually be made in stages, although it must always be kept in mind that the process is an integrated one and is continuous. The first stage, consideration of the general concept, should review need, alternatives, the major technological characteristics (especially fuel for the generating plant), major economic, social, and environmental impacts, and approximate location. It should produce an approval "in principle", or a rejection. The remaining stage or stages should be about environmental tailoring – the details of design and location. These details should be limited and shaped both by general policy and by the decisions made in the first stage. The reason for stages is simply to make it easier to manage the mass of material, by ordering it in a rational progression. No precise separation should be made between the stages. This is a matter that must be left to the discretion of the commission. They should, however, not be rigid. At the first stage, for example, the commission might specify a certain level of emission for a certain type of environmental equipment (e.g., scrubbers) and require a thorough explanation, so that it will be able to make an appropriate judgement about alternatives. On the other hand, such issues might be left to the second stage, as part of the environmental tailoring, in order to couple decisions about specific equipment with standards and emissions regulations. It is important, in any case, that the commission adequately inform all participants about the issues to be considered at each stage.

Before leaving this section it is important to consider the relationship of the proposed commission to the AECB on applications for nuclear generating facilities. In Chapter 3 we encouraged the rapid completion of agreements between the province and the AECB on matters related to approvals and the imposition of standards. Here we would advise that a review by the proposed commission precede the AECB licensing process and that approval by the commission be a prerequisite to the consideration by the AECB of site approval.

The Responsibility of Government for Individual Facilities

A controversial issue throughout the RCEPP's inquiry was the extent to which government should become involved in decisions relating to specific facilities and, in particular, decisions about such matters as fuels and the siting of facilities. This issue is not unique to Ontario Hydro and its relationship to government. Indeed, the relationship of government to its agencies is a major issue in contemporary thinking about public administration and administrative law. At the outset of the last section, we emphasized that government should be responsible for the major elements of policy about the development of the power system; what follows is an attempt to explain this, and justify it.

Administrative agencies have become familiar as an instrument of government organization during the 20th century. These agencies have been used to give continuity to decision-making, to provide an appropriate organization forum for the consolidation of expertise, and to remove issues from day-to-day politics. Doubtless, commercial agencies such as Ontario Hydro or regulatory agencies reviewing applications for specific facilities, make policy decisions.[11] That is, they make decisions that are choices, especially choices about important social issues. These choices may be either particular, that is, about an individual licence or application, or general, that is, about the procedures to be used to make such choices. The issue is, should government have ultimate responsibility for these choices, and how should this responsibility be exercised? Much discussion has recently been undertaken on this issue, especially at the federal level by the Lambert Commission, the Economic Council of Canada, and the Law Reform Commission of Canada. The general tendency of these discussions has been to encourage government responsibility for the policies of its agencies. There is no doubt that the government should be responsible for major elements of major facilities, simply because they are so important to our society. For example, decisions about the use of particular technologies is an appropriate responsibility for government. The policy-making process already described will probably give it much of this responsibility directly, through policies that determine many of the major characteristics of the facility (i.e., fuel type). This determination of general policy before a specific facility application for approval, is preferable. But some aspects of policy as it pertains to specific facilities will not be determined in this way,

either because the nature of the decision to be made forbids determination prospectively or because, as circumstances change, reconsideration of policy will be necessary in the context of individual facilities. At this stage it is difficult to draw a line between those aspects of a decision that should be made prospectively and those that should be made in the context of individual facilities. Therefore, the government should have ultimate responsibility for the entire decision about individual facilities, as part of the reconsideration of policy.[12]

This requirement has dangers. It may result in a process that is not open and the decisions may be based on considerations that were not presented to the commission. The results may be demoralizing to the commission and may not create any useful patterns of policy for the future. These dangers are the same as the dangers of appeals from agencies to government, which have been discussed extensively at the federal level. This has led to recommendations for abolition.[13]

These dangers cannot be avoided, but they can be limited in two ways:

- By limiting the power. The power of government to impose modifications should be limited by requiring a reference back to the commission to consider proposed modifications. This process would tend to make the process open, because the commission could request submissions, hold hearings, and report to the government.
- By procedures. Again, the process should be as open as possible. The right to make submissions to government, and to obtain disclosure of the submissions of others should be given and reasons should be required.[14]

Within government, there may be strong opposition to such an open process on the grounds that it is impractical and too time-consuming. However, it is desirable that the process should be open and ways should be explored to achieve this objective. With the utilization of appropriate procedures, and by conducting all power planning hearings through a "one-window" regulatory process, it should be possible to achieve openness and at the same time eliminate any unnecessary delay.

Location

One of the principal objectives of the proposal being presented is to eliminate much of the overlap, duplication, and delay associated with the present regulatory system, particularly for individual applications. At several points in this volume, the need to make decisions in stages has been described. This need is especially strong for decisions about the siting of facilities. The comprehensive review of electric energy and the report from the proposed commission to the Minister would be an appropriate way to give an early indication of general constraints and preferences for the siting of electric power facilities. When an application is made by a utility for the approval of a new facility, further refinement of the location is needed. This might be done in two stages. The possible sites for a generating or transmission facility could first be narrowed down from three or four alternatives to an approximate location, which would lead to an approval in principle. The second stage – the environmental tailoring stage – would be a determination of the precise location. Thus, within the one agency, the decisions about a facility would have moved through a consideration of general policy to a decision about the approximate location and finally to the precise siting. Given this general consolidation, two particular problems exist – zoning and expropriation.

In Chapter 3, it was suggested that local zoning not have control over the siting of major power facilities, because these are clearly works of provincial interest. Approval by the proposed commission after comprehensive and open discussion, and approval by government, should be sufficient authority for the utility to proceed with its undertaking. Likewise, where other land-use control requirements such as that which is currently administered by the Niagara Escarpment Commission apply, approval by the proposed commission and approval by government should be sufficient to permit the utility to proceed. Such a procedure will not, however, be effective unless it is conducted openly and unless there is extensive discussion with affected parties, particularly municipalities, conservation authorities, similar agencies, and land-owners. These parties should all be given an opportunity to appear in hearings before the commission.

Owners should have a right to a hearing about a proposed expropriation of their land. Chapter 3 contains a discussion of the process specified by the Expropriation Act, and the conclusion that it is inappropriate for decisions about the approximate location of major power facilities, because it would be a duplication of work to be undertaken by the proposed commission. The simplest arrangement would be to have the commission fix the approximate location of the facility and then to have the precise

location determined in the usual way under the Expropriation Act, but that would have some significant disadvantages.

Decisions about location – including precise location – are interdependent with other decisions and require knowledge of the general issues and implications, which are fundamental to the trade-offs. The briefing of the hearing officer would be time-consuming, and, considering the extensive investigation that would in any event be undertaken by the commission, much of it would be redundant. Also, uncertainties might arise about the allocation of jurisdiction. It might be difficult to determine the precise separation between decisions of the commission and decisions of an independent hearing officer under the Expropriation Act. Because of these disadvantages, it would be better to assign to the commission the function of determining the precise location. This could be accomplished either by a legislative change or, more simply, by appointing the members of the commission who determine the approximate location of a facility as inquiry officers under the Expropriation Act. Giving the responsibility to the commission would not affect the owners' rights under the Expropriation Act, because the owners would have the right to a hearing and could participate at any stage.

Rates

The discussion of institutions and procedures for setting electric power rates is short, because rates are a complex and specialized topic that has not been a major theme of the Commission's work, and because, from the Commission's perspective, only minor changes are needed. On the other hand, because the RCEPP's recommendations about the proposed commission affect the Ontario Energy Board, it seems appropriate to comment on the rate-review function, which the Board currently carries out when Ontario Hydro requests increases in prices.

There is no doubt that general principles for rate setting are important to all power consumers in the province. These principles should be reviewed from time, to time and it is encouraging that the government saw fit to direct the Ontario Energy Board to conduct an inquiry into the costing and pricing of electric power. Hopefully, the costing and pricing inquiry will settle the principles that are to govern rates in the coming years.

Hearings about changes in rates should continue, and they should be open and comprehensive. They should be undertaken by the proposed commission for the same reasons that the commission should hold hearings about policy matters and individual facilities. The interdependence of the decisions is again crucial. Just as decisions about individual facilities are part of the continuum of decisions about the design of the general power system, decisions about rates result from decisions made many years earlier about the need for facilities, the nature of the system, and all the other factors that are considered in the general policy for the power system. The rate-review function should be a sub-component of the many functions of the commission and should be co-ordinated with its work on general policy and individual facilities.

Since the commission would be holding hearings about general policy and individual facilities, the hearings about rates should be limited to questions about the amount of funds that should come from rates and how this requirement should be apportioned. In the past, other issues concerning the need for new facilities and the choices open were raised in the course of rate hearings. Such matters are inappropriate for the rate proceedings and should be considered in the general policy hearings, or in hearings about individual facilities.

The principal issue about rates is: Who should have the ultimate responsibility for deciding: the government, Ontario Hydro, or the proposed commission? As for the general principles on rate setting, there is no doubt that government should have the ultimate responsibility and that the process of the costing and pricing inquiry is entirely appropriate: a hearing by the OEB, a recommendation from the OEB to the government, and a decision by the government. On the other hand, the responsibility for periodic rate reviews is a more difficult issue. It has been argued that, since Ontario Hydro is a public corporation and since its board is accountable for the financial integrity of the corporation, the board should be responsible for the rates charged for bulk power electricity. In our view, however, this does not justify assigning responsibility to Hydro for setting rates. There is no necessary difference between a proposal for a rate increase and a proposal for a new facility; both involve choice and both have substantial political, social, and economic implications. Ontario Hydro has neither openness – provision for a public hearing – nor political accountability as justification for taking final responsibility in this matter.

The choice is between the proposed energy commission and the government; in particular, it is whether

the decision of the energy commission should be final. The commission would have the advantage of being independent and open – the government is politically accountable and has the possibility of openness. If the general principles for rate setting are to be approved by the government, then the principles (i.e., policies on rates) should confine the choices on a proposal for a rate increase within fairly narrow limits. Political reviews of specific rate proposals are not likely to reach any more rational conclusion than reviews by a regulatory agency, and they would have all the dangers of appeals or closed procedures described earlier. The energy commission should have the final responsibility for approving proposals for changes in the rates charged by Ontario Hydro. If it did not, and if the government was given the responsibility, changes in the recommendation of the energy commission should be made only after open review. A legislative committee would be a suitable body to conduct such a rate review. Again, however, it must be emphasized that the Select Committee of 1976 found that the rates to be charged are extensively a function of the system expansion programme. Any consideration of the rates should therefore be part of a comprehensive process, and review by any agency other than the energy commission would run the danger of establishing a protracted procedure.

The Ontario Hydro-Government Relationship

The fundamental principles already described at some length are government responsibility for and control of policy, and Hydro responsibility for day-to-day operations. It is basic to this proposal that policy is to be made, and opposed, through the institutions and procedures proposed, and not simply by direct order from the government or through Orders-in-Council. The requirement of approval through Order-in-Council was created before changing attitudes made more open procedures and institutions necessary. Even so, we believe this requirement should be continued, but only as a formal step, to be taken after all of the other requirements described have been satisfied.

Openness is crucial. Informal contacts between Ontario Hydro staff and government staff are inevitable and valuable, for example, through committee meetings and consultation, but any direction from government must be open.

However, the power to give directives should also exist. That is, the government should have some power to impose its will, apart from the process that has already been recommended. The directives should, except for emergencies, be made after Hydro, the energy commission and, where appropriate, a legislative committee have had an opportunity to consider and comment, and perhaps to hold hearings about the topic.[15]

Public Participation

The need for public participation in electric power planning was a major reason behind the creation of the Royal Commission on Electric Power Planning and a significant topic throughout the Commission's inquiry. The topic is, however, not new. The need for greater public involvement in the planning and implementation of the power system was highlighted in the reports of Task Force Hydro and the Honourable Darcy McKeough. Both reports encouraged greater involvement of the public in Ontario Hydro's planning. The last decade has seen much discussion and experimentation with different forms of participation. The debates about participation and its usefulness to decision-making have cast it either as a "good thing" that should be encouraged, or as a "bad thing" that should be discouraged. It is our belief that, while simple choice may be useful to express general attitudes, it is inadequate as a basis for designing appropriate institutions and procedures for the future. Public participation is a complex issue that requires careful analysis to determine its uses, limits, and appropriate forms. In many cases it also requires a significant change in attitude – an acceptance that valuable contributions can come from the non-expert and a willingness to allow such contributions to form a significant input to the decision processes.

Evidence from the Commission's inquiry clearly indicates that there is no single, monolithic "public interest" in our society, and it is therefore wrong to expect any one group to represent "the public". There is a wide range of private interests, which are represented by individuals and groups. These may have different or similar perspectives and desires about any particular issue. Public participation is the participation of these individuals and groups in the making of public decisions. The participation can take many different forms, for example, voting, reaching a consensus in a group, bargaining, and presenting informative analyses and opinions. Each form has its own justification, uses, limits, and needs. For example, there has been much discussion recently about the kind of decision for which votes or referendums are appropriate.

The decision whether to permit and encourage participation in a certain decision depends upon the nature of the decision and its institutional context, because the justifications and appropriate forms of participation differ for different kinds of decisions. Consider, for example, rate regulation by the Ontario Energy Board, and, particularly, decisions about the forecast of demand for the coming year. Voting is not an appropriate form of participation; the presentation of facts, analyses, and opinions is appropriate. However, the decision whether to permit and encourage public participation also depends upon the inherent values of participation. These values, especially the values of participation in direct ways, may be important enough to require a reshaping of the decisions and their institutional context in ways that permit desired forms of participation. Consider, especially, the constraints imposed by the present nature of the electric power system, and, in particular, its immense facilities, complex technology, and centralized control. The opportunities for individual participation, and its effectiveness, decrease as the number of participants, the number of affected persons, the complexity of the decisions, and the scale of the institutions increase. From our observation, participation in decisions about this kind of system tends to be effected principally through groups and their representatives, and to be limited to making presentations to the governmental agencies that make the decisions.[16] One of the arguments in favour of a shift in the nature of the system towards smaller facilities and decentralized controls is that this would enable individuals to have opportunities to participate in more immediate, effective, and responsible ways. We believe, however, that such a shift is not necessary to achieve participation by individuals; rather, what is needed is a change in attitude and a willingness to involve individuals in decisions. Certainly, to this end, Ontario Hydro's public participation and education programmes should continue. It is useful for the distribution of information and it permits Ontario Hydro to make proposals. However, it is not, at least not usually, useful for reaching agreement or consensus, or even resignation or acquiescence. These aspects should be left to a hearing by the commission.

The Right to Participate in Hearings

There are four main reasons why citizens should have the right to participate in decisions relating to electric power developments. The first is the value to each individual of participation in making decisions that affect him or her. Second, participation tends to make decisions acceptable. For example, a decision about the siting of a facility usually causes harm to some individuals and areas, even though it may be fully in accord with existing general policy concerning environmental trade-offs. Participation and openness can help to make the decision acceptable to interested and concerned observers, if not to those who are affected. Third, participation can make some decisions better than they might otherwise be. The presentation and testing of information and analyses can improve the rationality and accuracy of the decision-making process, and the presentation of opinions can improve understanding. Fourth, participation and openness tend to facilitate the accountability of government, by displaying the relevant information, analyses, and opinions. These four justifications obviously tend to overlap and reinforce each other.

However, participation is not an unqualified blessing; it has disadvantages. First, it imposes administrative costs, for example, the expense of the time the agency staff and the participants take to prepare and to participate. These costs are usually insignificant in contrast to the value of participation and to the cost of facilities for the electric system. Second, participation may increase the uncertainty of planning, by increasing the time between the making of a proposal for a facility and the launching of construction work. For some decisions, this additional time can be reduced or eliminated by rational ordering of decisions, but for some it is unavoidable. However, considering the expected life of facilities of this kind and the value of participation, this cost, too, is usually insignificant. The third disadvantage is the most substantial one. Participation may cause the completion of new facilities to be delayed beyond the times they are planned for and needed. This possibility needs careful analysis, because this kind of delay may be avoidable. For example, an irrational arrangement of the order of decisions may cause the time taken for participation to cause a delay that could have been reduced or avoided. If so, it is preferable to make a better arrangement of decisions than to omit the participation. Another example is the possibility that the utility may cause or contribute to a delay by failing to proceed reasonably quickly through the stages associated with participation or to provide reasonable information. Even if participation does cause a delay, it may in some cases eliminate more serious delays later in the process.

In short, participation obviously can cause delay. Recent comments about the likelihood in the United States are conflicting, and in Canada there has not been enough experience to generalize from. In particular, the long, sad story of the transmission line from Bruce to Milton does not demonstrate that

participation will necessarily cause unreasonable delay. That story began early in the 1970s, before Ontario Hydro had accumulated much experience in its public participation programmes, and the arrangements for making the decisions did not permit participation at the appropriate stages. Our conclusions must be much more expressions of principle than the consequences of experience with participation in power planning in Ontario. We believe that participation is valuable, and that it is not likely to cause unreasonable delay if care is taken. Concern is occasionally expressed about deliberate efforts to cause delay. Attribution of motives depends upon perspective; for example, actions that a utility may perceive as deliberate efforts to cause delay may seem to the actors to be efforts made in good faith to protect legitimate interests.

Considering these general principles and past practices, the proposed energy commission should hold hearings to permit participation in policy-making, decisions about individual facilities, and rate-setting. Hearings are already required for some similar functions, for example, by the Environmental Assessment Board and the Ontario Energy Board. The right to participate in rule-making is more debatable and needs further discussion. Participation in rule-making can be justified on the same grounds as participation in other kinds of decisions, but the traditional rule of the courts is that no participation is required for rule-making, and and, until recently, legislation did not impose any participation requirements. Standards-setting bodies such as the Ministry of the Environment or the AECB occasionally consult the public, but not often openly or comprehensively. In the United States, participation in rule-making has been required for decades. It takes many different forms, but there are two basic approaches. One is the trial-type hearing, which is rare. The other is "notice and comment", which is common and which usually works reasonably well and without great cost. It requires publication of a proposed rule and an invitation for comments, usually written. Recently, both legislatures, courts, and agencies have supplemented this basic requirement by requiring also a statement of reasons for the rule, either in the original notice or after the comments have been made; public discussions; oral comments; and, most important, limited cross-examination on crucial technical issues. This development has been extensively debated, and its future limits are uncertain. Recently, in Canada, some federal statutes have imposed a "notice and comment" requirement. This requirement was, for example, contained in the proposed Nuclear Control and Administration Act – Bill C-14. This trend is desirable. Participation should be permitted in much rule-making, and there should be a right to notice, including notice of the proposed rule and its effects and justification, and a reasonable opportunity to make representations. Agencies might, of course, permit different kinds of participation in some situations. However, the issue is a general one, and rule-making about the electric power system is basically the same as any other rule-making.

Initiative, Funding, and Information

Many decisions of government seem to be remote, because they appear to be about the distant future, or to be abstract. This would be especially true of much of the work of the proposed energy commission, especially about long-range planning and about general policy. Other decisions have substantial and immediate impacts, but these impacts either do not affect particular individuals or are small and widely diffused – for example, decisions about environmental issues and rates. Still other decisions have impacts that are substantial and immediate for some places and persons but remote and diffused for others – for example, decisions about the siting of facilities. Participation of any kind is costly, and these considerations therefore tend to discourage participation and to make it weak or uneven. As a result, some interests may not be represented effectively, and others – for example, property interests – may be represented strongly. Participation may still be useful for these decisions, and it may benefit not only the participants but other individuals and groups, and society generally. However, society cannot expect individuals to participate effectively at their own expense. The agencies, particularly the proposed commission, must take the initiative, especially by undertaking public education, encouraging participation, and ensuring that unrepresented interests are protected.

The issue of funding for participation emerged early in the 1970s, and in the United States there is now considerable experience and some settled programmes. In Canada, there is less experience, but funding of participation is not unknown; the RCEPP was, of course, offered the opportunity to experiment with funding. Many others such as the Canadian Radio and Television Commission and the Berger Commission have also had experience with public funding. In general, funding should be provided to encourage participation. It should not, however, be provided for all hearings and all potential participants. A balancing of the benefits of participation and cost will limit funding to situations where it is

necessary to have effective participation and where the value of the participation is likely to be substantial. These might be in the areas of research and cross-examination of witnesses. Whatever these limits may be, funding should doubtless be given for many hearings that concern electric power planning. Given these general principles, some secondary issues must be settled. What should be the immediate source of the funding, and how should the ultimate cost be allocated? To whom should funding be given, and should some kind of requirement of need be imposed? How much should be given, and should the funding be given after the participation or before? These are general issues, which will probably require careful resolution and may require the context of a specific hearing for the ultimate decision. However, we make the following observations:

- Responsibility for obtaining complete information and perspective resides with the proposed commission. This being the case, the commission should determine the procedures and criteria for funding, and decide who should be funded and how the funds should be allocated.
- Since an adequate and reliable electric supply is essential to the province and at the same time the environmental impacts of electric supply facilities are substantial, it should be the province or the applicant that funds participation, in order to ensure adequate representation of all points of view relating to the risks and benefits.
- Rules for funding should be established and disclosed well in advance of public hearings. Sound rules would permit some funding before participation, particularly if the funds are to be utilized for research that will subsequently be presented for cross-examination.[17]

Another need, if participation is to be effective, is information. Government institutions, including Ontario Hydro, often have information that is necessary for effective participation and that private individuals and groups cannot obtain independently, either because of its nature or because of the cost. A right to obtain information from government is needed, for this reason and for more general reasons. There is a need to avoid a closed and sheltered government process, and a basic democratic need for individuals to be able to find out about their government. The right to information is a current topic. A bill has recently been introduced in Parliament, and the report of the Ontario Commission on Freedom of Information and Individual Privacy is expected early in 1980. It is expected that this report will deal with access to information generally, but, given that electric power planning is not unique, the general principles should apply equally to the electric power area and any other area relating to government disclosure of information. Ontario Hydro should be included in any general right to obtain information from government, and not be permitted exceptions peculiar to itself. The Commission discussed information about nuclear power in its *Interim Report*. Clearly some kinds of information must not be disclosed, but the restriction should be much less than was often claimed before the Commission. It is encouraging to observe how far the AECB is going in order to give the public access to information relating to nuclear developments.

Procedures for Hearings

Hearings are used in a wide range of contexts, both within and beyond the field of electric power planning. The procedural requirements, that is, the rights to hearings and the procedures for conducting them, are specified by common law and by legislation. The essential rights are the right to know the issues to be decided by an agency, the right to review the material it receives about these issues, and the right to present and test information, analyses, and opinions. Some of the common elements of these rights are the right to notice, the right to present evidence, the right to cross-examination, the right to openness, the right to counsel, and the right to disclosure. However, the law usually permits considerable diversity and flexibility in the choice of procedures.

Misunderstandings and misconceptions are common. Some claims are made that seem to suggest that hearings can be used to decide almost anything, and other claims are made that they are just havens for lawyers and legalisms. Much of the comment concerning hearings and procedures at the Commission's hearings was expressed in similarly extreme terms. Formality and legalisms were assumed to be undesirable, and informality was assumed to be desirable. No such sweeping generalization is useful. The crucial issue is the appropriateness of a procedure for making a certain decision, and different procedures are appropriate for different kinds of decisions.

Much thinking and discussion is going on at present about the usefulness of hearings and the design of appropriate procedures. Changes are being made by legislatures, courts, and by the agencies themselves. However, so far, there are few clear and specific guidelines. Continuing innovation and experimentation are necessary.

Following are some suggestions based on the RCEPP's hearings which are particularly relevant to the proposed energy commission.

Informality. Informality is probably a general need for effective public participation. Of course, "informality" and its converse "formality" are, at best, merely suggestive terms. Formality is generally more appropriate for determinations about the fate of individuals. These hearings need not be and should not be conducted like trials, because their purposes are substantially different.

Definition of Issues. Electric power planning is complex, and careful definition of issues will be necessary to ensure comprehensive consideration of each decision and to plan a rational order among decisions and stages. Pre-hearing conferences can help, although they will need much more participation, negotiation, and careful planning than they have had in the past.

Comprehensibility. Comprehensibility is another general need for effective public participation. The issues must be made comprehensible to the general public, and must be effectively communicated. This is another way in which the proposed energy commission should take initiatives.

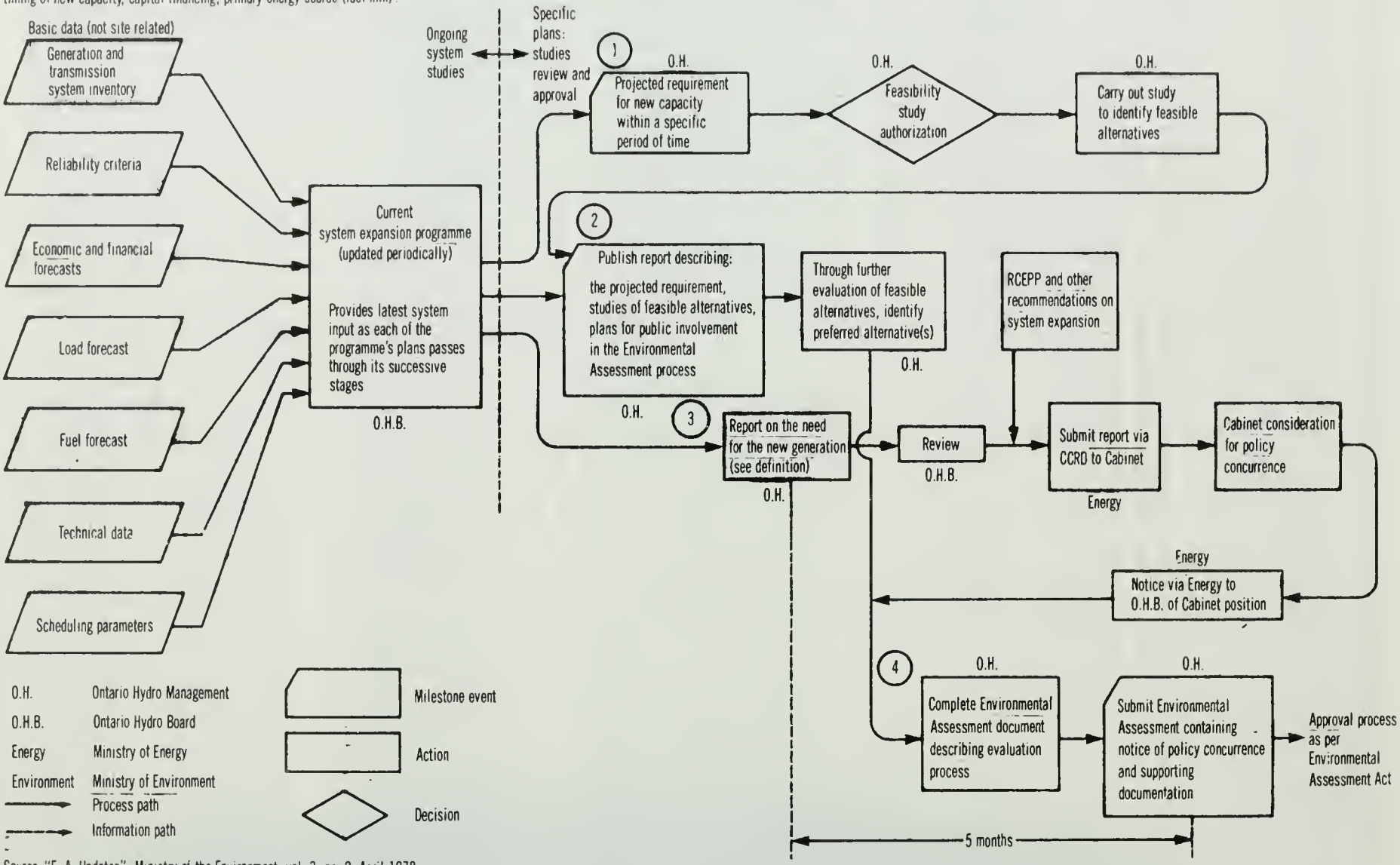
The Limits of the Trial-Type Process. Evidence and cross-examination are a familiar and constant element of hearings. Witnesses are presented by the participants, and they give evidence; traditionally, the evidence has been given orally, although some agencies have come to encourage or require the use of written submissions. Other parties are entitled to cross-examine, and the cross-examination is usually oral. After the evidence is given, the parties present arguments, which are usually oral. This procedure is essentially the procedure of courts and trials, and can usefully be described as a "trial-type" procedure. The most important and most difficult challenge in designing procedures is to determine appropriate uses and limits of this trial-type procedure.

For the proposed energy commission, the particular nature of the challenge will be influenced by two characteristics of the decisions it must make. First, many of the decisions are about complex technology and its uncertain prospects and consequences. Trial-type procedure can be useful for some aspects of these decisions, for example, demonstrating the nature and adequacy of research efforts, and unexpressed assumptions and preferences; but not for others, for example, determining the appropriateness of methodology, or the wisdom of assumptions made when facts cannot be determined. Second, many of the decisions involve choice and social policy; for example, decisions about siting involve choice about environmental trade-offs and the allocation of costs. These choices cannot be "tried", and should not be obscured by making them seem to be determinations of fact or applications of general rules. Much imagination and experimentation will be needed to design modifications of the trial-type procedure. Some possible supplements are conferences, panel discussions, and debates.

Even though modifications are possible, the hearing has inherent characteristics and consequences. In particular, it tends to be adversarial process. Interests, individuals, and groups conflict and compete, presenting their claims to the agency in order to change or oppose the claims of other participants. This adversarial characteristic tends to obscure issues and interests that are not represented, and to restrict the possibilities of resolution through negotiation, agreement, and consensus. One possibility that needs to be considered is the use of other processes, such as mediation and community education. While these processes are not likely to be major alternatives to processes undertaken by agencies such as the proposed energy commission and through hearings, they may be useful supplements and should be experimented with, particularly when local government can become involved.

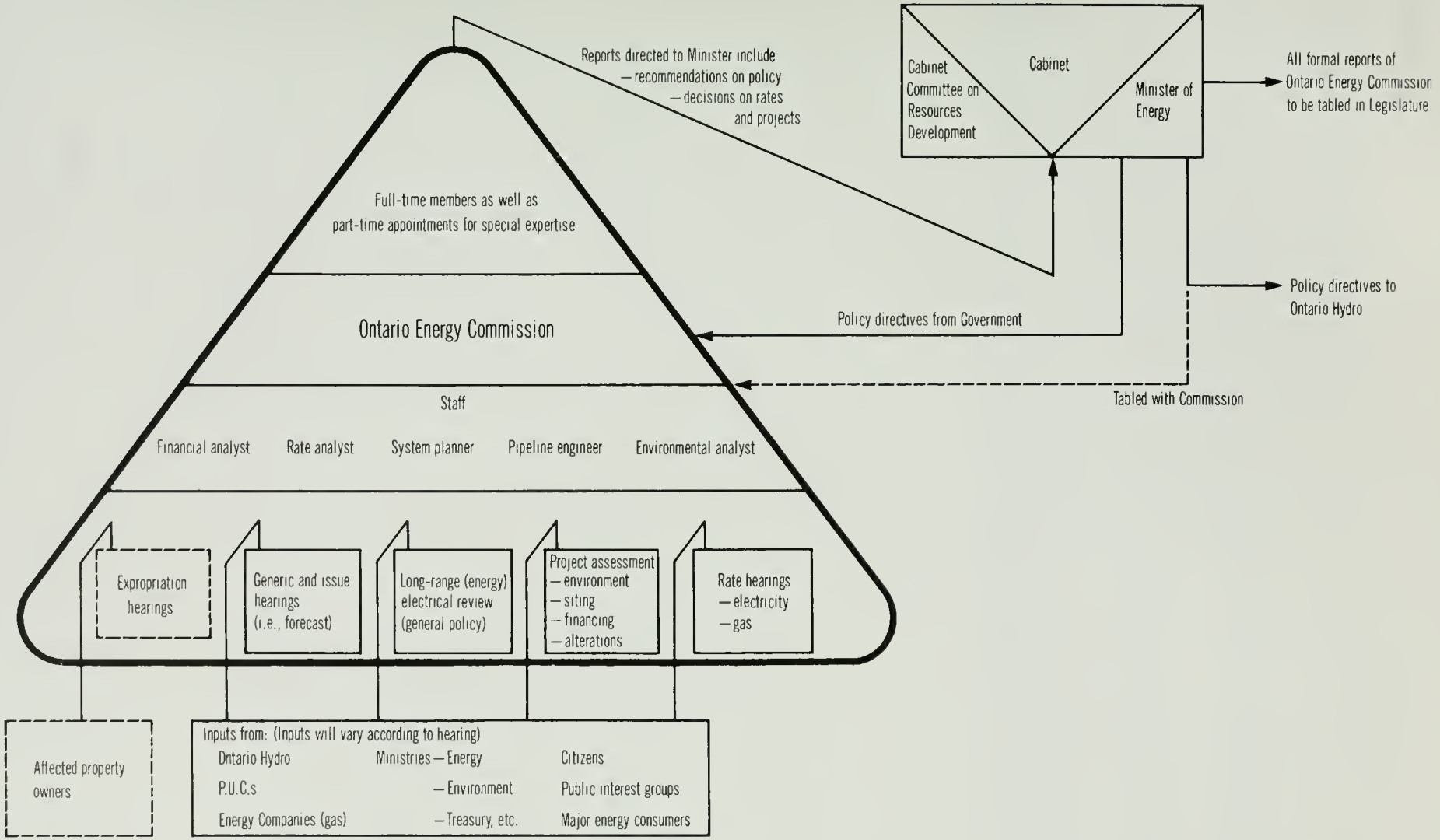
Figure 5.1 Interim Approval Process for New Generation and Associated Incorporation Facilities — Refer to Footnote 1

Notes: CCRD is Cabinet Committee on Resources Development. "Need" is to encompass the following: overall future requirements for additional electric power supply, new generation and associated transmission requirement relating specifically to a particular period, timing of new capacity, capital financing, primary energy source (fuel mix).



Source: "E. A. Updates", Ministry of the Environment, vol. 3, no. 2, April 1978.

Figure 5.2 Ontario Energy Commission—a "One-Window" Concept of the Regulation of Electric Power Developments



Source: RCEPP.

Postscript

Public access to comprehensive energy information was a goal and a principal undertaking of the Royal Commission on Electric Power Planning.

Its commitment led to the development of a public information centre at the Commission's offices and the establishment of four regional depositories in central public libraries in London, Ottawa, Sudbury and Thunder Bay. These information centres will become inactive with the termination of the Commission's inquiry. However, it is our belief that the provision of public access to independent, comprehensive energy information is a commitment which should continue.

Ontario Hydro and the Atomic Energy Control Board have recognized this need and both should be commended for their recent efforts to provide information in an open and forthright manner. But the government of Ontario should also provide access to independent energy information.

The proposed Ontario Energy Commission is the most appropriate institution to perform this function. To support this role, the information centre of the Royal Commission should be transferred to the proposed Commission. Public access is essential. The proposed commission should be provided with adequate space, finances and staff to service the energy information needs not only of the Toronto area but also those of the regional depositories established by the Royal Commission.

APPENDIX A

A Race Against Time – A Summary of the Conclusions Relating to the Regulation of Nuclear Power

The following is a brief review of the conclusions relating to the regulation of nuclear power that were set out in the Commission's *Interim Report on Nuclear Power in Ontario – A Race Against Time.*

While there is a deep polarization of opinion regarding the use of nuclear power, both its proponents and its critics agreed that changes in the regulatory process are necessary. The proponents asserted that regulatory reform could shorten the lead time and remove jurisdictional uncertainty, while the critics claimed that change would lead to openness, improved accountability, and increased opportunity for more and earlier public involvement.

The regulation of Ontario's nuclear programme is multi-jurisdictional. Control and supervision of most aspects, particularly those relating to health, safety, and security, rest with the federal Atomic Energy Control Board (AECB). The province has control of the financial and economic aspects of Ontario Hydro's nuclear programme, and the provincial regulatory authorities have become involved in regulating certain aspects of nuclear power through the application of general provincial legislation on environmental, health, resource development, and energy matters. In addition, the Ontario nuclear programme is affected by numerous international advisory and regulatory agencies. The Commission concluded that potential difficulties and uncertainties exist with respect to the division of legislative power between the provincial and federal governments concerning the regulation of the nuclear fuel cycle, particularly in the matter of environmental assessment.

The rationale for a nuclear project should be open to public scrutiny. The Ontario Environmental Assessment Act could provide a basis for public review of the comparative social and environmental implications of nuclear power development.

The AECB licensing review should concentrate on important matters relating to safety, security, health, and environment. Decisions relating to the use of nuclear power, including ecological, social, economic, and political aspects, should be the responsibility of the Province of Ontario.

A close working relationship should continue to exist between the regulator and the regulated, but increasingly it will be necessary to design institutions and procedures that respect the expert, allowing him to conduct research and arrive at decisions. The institutions should, at the same time, provide for testing and control and should, in particular, insist on accountability.

Standards, rules, and guidelines made openly, and known by those who are affected, should enable the process of approval to proceed more efficiently and fairly.

Ontario Hydro should prove the safety of its CANDU reactors under extreme conditions, within limits acceptable to the AECB. The burden of proof, as in the past, should rest with the proponent.

The principle of "openness" of the regulatory process is important. Public participation should increasingly be recognized as an essential component of decision-making on nuclear matters. Concomitantly, access to information should be based on disclosure being the rule and exceptions being strictly limited.

The federal licensing process must be carefully co-ordinated with the provincial approval process, to avoid delay, confusion, and duplication of the efforts of the applicant.

The complexity of nuclear technology and the deep polarization of opinion, both on the broader aspects of technology choice and on the more specific questions of risk and benefit, complicate decisions about nuclear power. Such decisions are "political" in the broad sense of the word because they involve choice among competing interests and value systems and a consequent allocation of costs, risks, and benefits.

APPENDIX B

RCEPP's Issue Paper No. 8 – A Summary of Issues

Decisions on Demand

- Should the government specify the amount and reliability of the electric power supply?
- On what basis should "need" be determined? (Should all demands be given equal priority or should some loads be supplied on an interruptible basis?) What groups should be involved in the determination?
- Should targets for electricity conservation be set as a government commitment? How should such targets be defined within an overall provincial energy strategy? What legislation would facilitate and/or make mandatory conservation measures by individual customers?

Decisions on Supply

- Should the government specify some of the basic variables of electricity supply as a matter of policy?
- Which variables are suitable for such non-technical choice? (E.g.: the proportion that should be nuclear, and locational factors such as the type of land and the distance from the load.)
- What groups should be involved in the general and/or specific decisions in the evaluation of supply facilities, and what mechanisms of decision and review are feasible?

Decisions on Finance

- How should decision-making authority on power rates and capital borrowing be distributed among the Cabinet, the Ontario Hydro Board, the Ontario Energy Board, and other bodies? (Should the Ontario Energy Board be a regulatory body? Should Cabinet approval of power rates be required?)
- Which ministries and other agencies should be involved in developing and reviewing financing alternatives? In what manner should the public be involved?
- How should consideration of Ontario Hydro's operating and capital budgets be undertaken? (How often? By what agency? Separately or jointly reviewed?)

The Relationship between Ontario Hydro and the Government

- Are some operational decisions of sufficient importance to be made by "government" rather than "Ontario Hydro"?
- How can Ontario Hydro planning be best integrated with public policy, considering factors such as the differing time frames for decisions?
- Is there a need for Ontario Hydro's mandate to be reviewed periodically to ensure that it continuously reflects the changing needs of the province?
- What are the best mechanisms for ensuring the accountability of Ontario Hydro? (Should there be a regular statement in the Legislature by the Minister of Energy, specific to Ontario Hydro operations?)
- What role ought the Legislature to play in examining Ontario Hydro plans and policies?

Integrated Policy Planning

- Should there be a regular formal public policy statement on Ontario Hydro operations within the context of total provincial energy strategy?
- How can officials of Ontario Hydro best contribute to interprovincial and federal-provincial discussions on energy supply? (E.g.: as advisors to the provincial Ministry of Energy, or as participants on task forces.)
- What role can Ontario Hydro and the municipal utility commissions play in the development of provincial energy conservation strategy?
- What information possessed by Ontario Hydro or the municipal utilities would be useful to other

municipalities and industries, and to other groups developing energy conservation programmes? How can this information be made available? (Should there be a central agency assisting citizens with questions on energy conservation?) What methods for the broad dissemination of available research and demonstration results are possible? (E.g., solar technology demonstrations.)

- By what mechanisms might the efforts of the three conservation offices (Ontario Hydro and the provincial and federal conservation offices) be best integrated to supplement each others' activities and programmes?

Land-Use Planning

- How can an integrated approach to land-use planning be facilitated? (What mechanisms might be proposed that would best incorporate local/regional/provincial government concerns into power system planning or that would best incorporate electric energy supply factors into local, regional, and provincial plans?)

System-Wide Planning: the Long-Range Programme

- At what point should constraints in each decision area be incorporated into the process of developing alternatives? (Should particular "policy decisions" be accepted prior to the development of alternative system plans, or should they be used to exclude alternatives at a later stage?)

- Should government "approval in principle" be given on a regular basis to Ontario Hydro's generation development programme? If so, which time period should the approval cover? Which aspects of the programme would then be set, and which would remain open to further modification?

- What structures for the review and approval of alternative programmes are appropriate? (When, how, and by whom should alternatives be developed? When, how, and by whom should constraints be specified? When, how, and by whom should choice be made? What are the strengths and weaknesses of the suggested processes?)

Co-ordination of the Review and Regulatory Process

- Is there a need for an ongoing public monitoring of Ontario Hydro's implementation of policy decisions? Or should there be a periodic public re-evaluation of the adequacy of policies? In particular, should there be a permanent agency for resolution of generic issues ("need", generating mix, etc.) separately from specific siting and rate issues?

It is essential to clarify the sequence in which decisions should be made and the degree to which decisions by each review/regulatory board are binding.

Questions that arise concerning the application of the environmental assessment procedures include:

- Where do potential delays in the process occur?
- How can delay be minimized, while still ensuring adequate study and review?

The central issue is, how the Environmental Assessment Act can best be applied to Ontario Hydro planning. For example:

- Should "need" be discussed in its broadest context? (Should Ontario Hydro be required to evaluate the alternative of "no project" by discussing load management and conservation potential?)
- Should procedures of the Environmental Assessment Act be expected to incorporate all stages of the decisions process? (Should environmental assessment be considered as "project-oriented" or as encompassing "system" aspects?)

Public Participation

- Who should represent the public in order to ensure that all points of view are fairly reflected?

- How should the public be represented at different stages of the planning process?

- Who should run the "study" phase of planning of power facilities? (E.g., Ontario Hydro, government(s), external consultants.)

Other specific questions of procedure include:

- How should participants be chosen?

- What roles shouid the local media and local governments assume?

- What mechanisms for co-ordinating local study groups with regional groups are possible? (E.g., seminars, workshops.)
- If funds are provided, how should allocation to groups be decided? What conditions (if any) should be attached?
- Which of the available methods of participation are best for the study phase? How long should this phase last?
- How many avenues of individual appeal ought there to be?
- How can the hearing mechanism be informed so as to facilitate public participation and public education?

Ongoing Involvement in Decision-Making

- Should the initiative in power planning within the framework of provincial planning be Ontario Hydro's or the government's? (Should Ontario Hydro participate in government-organized planning, or vice versa?)
- Should the basic approach be from the "top-down" or from the "bottom-up"? (What degree of emphasis should be placed on decentralized planning by municipalities and local utility commissions, as opposed to planning on a provincial scale by central authorities?)
- What type of representation could provide a useful link between community-based decisions and energy policy concerns on a provincial level?
- What ongoing mechanisms should be adopted for communication and the exchange of information on energy supply options, energy conservation possibilities, alternate technology, and the impact on citizens of continuous growth in the consumption of electric power?

APPENDIX C

Participant Views on Decision-Making and Public Participation

During the RCEPP inquiry a number of submissions were received that offered explicit advice on decision-making and public participation. There was an extremely high level of agreement on appropriate structures and procedures.

This appendix contains a representative selection of the positions on these matters that were presented by various organizations, agencies, and individuals, and a summary of the findings and conclusions of the Commission's final workshop on decision-making and public participation. The summaries of selected positions in the first part of the appendix are arranged in five sections, dealing with long-range planning, policy direction, the streamlining of legislation, the assessment of technologies, and public participation.

Long-Range Planning

Electrical and Electronic Manufacturers Association of Canada

A mechanism should be established under the Ontario Energy Board Act for a periodic review (with direct public input) of Ontario Hydro's long-range plan. The mechanism should have the following characteristics:

1. There should be direct public participation.
2. There should be participation by Ontario Hydro, which would submit its long-range plan for review.
3. There should be participation by all appropriate levels of government.
4. There should be an opportunity for all participants to inspect the plan proposed, and the back-up materials, well in advance of the hearing.
5. The format of the plan proposed as well as the format of the back-up materials should be set out by regulations established under the Energy Board Act.
6. The review should occur at five-year intervals unless there has been a material change in circumstances necessitating an earlier review.
7. The decision as to whether there has been a material change in circumstances should be made by Ontario Hydro, by the Minister of Energy, or by the Ontario Energy Board (OEB), upon the application of any person.
8. Submissions to the OEB should have to be made in writing as a condition precedent to an oral hearing.
9. There should be consideration of awarding costs.
10. After the review, the OEB should make a report to the Minister of Energy. The OEB's report would include the following:
    (a) a summary of the information presented and the views expressed at the hearings
    (b) an assessment of the progress made towards meeting the plan approved at the last review
    (c) recommendations with respect to approval of the plan proposed, or parts thereof, and the reasons therefor
    (d) recommendations as to what ought to be done until the next review to fulfil the goals of the plan, if it has been approved as recommended
11. The report of the OEB should be available for public inspection.
12. The decision to approve the plan (and to accept the recommendations as to what ought to be done until the next review to fulfil the goals of the plan as approved) would be made by the Minister of Energy with the approval of the Lieutenant Governor in Council. The decision would not be subject to appeal in the courts.

Ontario Municipal Electric Association

Ontario Hydro should be required to demonstrate "need" before proceeding with concrete planning or with construction of facilities; once "need" has been established the question of "need" should not be raised again.

In the determination of "need", the availability, reliability (i.e., security of supply and prices), and suitability of all energy sources must be considered. The availability of large supplies of natural gas in an area should be a factor when a proposed expansion or extension of electricity generation capacity to serve that area is being considered.

With "need" established, Ontario Hydro should be required to produce its studies and plans for plant expansion to meet the need, including alternatives, if any, for use in public hearings and debates.

Public hearings should be conducted so as to permit all intervenors with a demonstrable interest to be heard.

Christian Farmers Federation of Ontario

Electric power planning must be integrated into the general planning process at the local, regional, and provincial levels of government.

At present, there is integration only at the provincial level. Developers must be aware of the electric power needs of the developments they are promoting and must be required to show that they have confirmed sources of electric power before being given approval for developments requiring additional energy.

Differences over the long-range goals for our society should be aired in a setting similar to the one that was provided by this Royal Commission.

Grey County Federation of Agriculture

Responsibility for determining the amount and reliability of electric power should be removed from the control of Hydro and entrusted to an independent regulatory body that would also have responsibility for dealing with priorities and applications for new or increased supplies of power.

Ontario Hydro

It would undoubtedly be important for Ontario Hydro to provide general information on system expansion alternatives as background information both for the load-forecasting process and for the EAB hearings . For instance, Ontario Hydro should produce, file with the Ministry of Energy, and make publicly available alternative conceptual system expansion programmes that meet the range of electricity requirements contemplated.

It is hoped that the availability of such information would ensure that the implications of differing levels of system expansion would not be overlooked when the future use of electricity was being estimated, and at the same time would assist in the evaluation of each project in the context of the entire Ontario Hydro system.

Policy Direction

Electrical and Electronic Manufacturers Association of Canada

There should be a clear statement by the government of Ontario of the guidelines for electric power planning that Ontario Hydro should follow.

Christian Farmers Federation of Ontario

The Ontario Ministry of Energy must issue a set of electric power guidelines: a policy statement of the government of Ontario on planning for electric power. These guidelines should be designed to assist all levels of planning for electric power within the planning process in Ontario. They should outline a methodology for accommodating electric power concerns in the planning process. Their implementation in any municipality or region should ensure that electric power needs and availability are in balance.

Ontario Hydro

[In the course of the hearings], there appeared to be a general view that the amount of electricity Ontario Hydro provides should be more consistent with a well-articulated energy policy in Ontario. This necessarily implies some policy guidance being given to Ontario Hydro, as to the load Ontario Hydro should be planning to serve.

If . . . long-range planning has become a much more political process, then the decisions to be made are also political in nature, requiring the decision on each project or undertaking to be consistent with overall government policy and objectives, both in energy and other policy fields. The solution to these and related concerns regarding electricity demands would appear to be to more explicitly co-ordinate Ontario Hydro's load-forecasting process with the forecasting and policy-making responsibilities of Ontario government ministries, particularly the Ministry of Energy. In order to achieve energy planning objectives, in the broadest sense, this would have to be done in the context of a broad review of Ontario's total energy demand-and-supply options.

The Streamlining of Legislation

Electrical and Electronic Manufacturers Association of Canada

There should be a merger of the approval processes of the Expropriations Act and that portion of the Planning Act that deals with the amendment of an official plan or by-law with the approval process of the Environmental Assessment Act. Approval to proceed with an undertaking under the Environmental Assessment Act would be approval to expropriate the land necessary for the undertaking and would operate as an amendment of official plans or by-laws prohibiting or adversely affecting the undertaking.

The foregoing recommendations could be accomplished, first, by adding a subsection to Section 4 of the Expropriations Act, as follows:

> "(3) Subsection 1 does not apply to an expropriation by Ontario Hydro where Ontario Hydro receives an approval, with or without terms and conditions, or an exemption under the Environmental Assessment Act."

Second, the Planning Act would have to be amended so that Section 46 would read as follows:

> "46. In the event of a conflict between the provisions of this and any other general or special Act, the provisions of this Act prevail except for the provisions of the Environmental Assessment Act with respect to undertakings of Ontario Hydro."

Third, the Environmental Assessment Act would have to be amended to add to it the following section:

> "(1) Where approval (including an exemption), with or without terms and conditions, to proceed with an undertaking is given to Ontario Hydro, that approval shall also be approval to expropriate land for the undertaking and shall be subject to the Expropriations Act only with respect to the issue of compensation."

Ontario Hydro

Matters at present dealt with by the Planning Act, and most issues at present considered in hearings of necessity under the Expropriations Act, will be dealt with during the environmental assessment process and should not therefore be subject to further review under those acts. This is consistent with the recommendations of both the Planning Act Review Committee and the Report on the Expropriations Act prepared by R.B. Robinson, Q.C.

However, for transmission projects it may be desirable to retain a mechanism that would determine the precise centre-line for the transmission corridor which would include input from potentially affected land-owners. The basic route would, of course, be determined by the environmental assessment process, perhaps to about the same level of detail as were the routes recommended by O.M. Solandt in his reports on the Nanticoke-Pickering and Lennox-Oshawa lines. One possible approach would be to have the members of the Environmental Assessment Board who had conducted the route hearings automatically appointed as hearing officers under the Expropriations Act for the purpose of conducting hearings on the detailed location of the right of way on the individual properties and on the property rights to be acquired.

Ontario Ministry of the Environment

Under the arrangements agreed to by the ministers (Environment and Housing), where an Ontario Hydro undertaking is subject to the Environmental Assessment Act, any approvals required under the Planning Act, such as amendments of official plans or restricted-area by-laws, would be decided upon by the decision-making body under the Environmental Assessment Act. This body would be either the Environmental Assessment Board, the decisions of which are subject to review by Cabinet, or, where no

hearing is required by the public, the Minister of the Environment, whose decisions are made with Cabinet approval. Decisions made will stand in place of decisions by the Minister of Housing or the Ontario Municipal Board.

As a result of these streamlining arrangements, a duplicative hearing before the Ontario Municipal Board will not be required for projects that are subject to the Environmental Assessment Act. While the objects of both the Environmental Assessment Act and the Planning Act will be accomplished, Ontario Hydro and concerned citizens will thus be able to focus on one review process and one potential hearing, within a clearly defined process leading to a decision. All matters relevant under either the Environmental Assessment Act or the Planning Act will be addressed in this consolidated process.

A solution (to the overlap of review and hearing procedures between the Environmental Assessment Act and the Expropriations Act) is found in the recommendations of the *Report on The Expropriations Act* prepared by R.B. Robinson, Q.C., with respect to the procedures for dealing with massive expropriations. Essentially, Robinson recommended that where there is a full inquiry into the need for an undertaking, its size and location, and alternative sites or routes – such as would take place in any case under the Environmental Assessment Act – the procedures under the Expropriations Act would be limited to determining the need for particular parcels of land for the purpose of the approved project.

Adoption of the Robinson recommendations, coupled with full environmental assessment, would avoid expropriation problems of the sort still being experienced with the Bradley-Milton transmission line.

The Assessment of Technologies

Christian Farmers Federation of Ontario

Ontario Hydro must be responsible for the maintenance of an inventory of all possible sources of electric power, including up-to-date information on alternative generation methods, transmission options, and their potential environmental impacts. Hydro should make extensive use of representatives of the public in the development and maintenance of its inventory. This would allow for a process of co-operation that gives the information developed greater credibility and teaches at least some of the public that there are very real limits to the information that can be provided accurately.

Public Participation

Electrical and Electronic Manufacturers Association of Canada

It is evident from the material presented to the Commission that citizens are concerned with more than just whether or not a generating plant or a transmission line should be near where they live. It is also evident that citizens may have some worthwhile points to make with respect to future demand, the types of plants or lines to be built, system reliability, etc. Much of the acrimonious debate at the later stages of electric power planning can be avoided if citizens have a chance to make regular input at an earlier stage.

Ontario Municipal Electric Association

There should be no prior or "up-front" funding of intervenors. The tribunal conducting the public hearing should have the authority to award costs to, or to assess costs against, intervenors – at their absolute discretion.

Christian Farmers Federation of Ontario

Provincial electric power guidelines should be developed in full consultation with all interested parties.

The issuing of draft guidelines should be followed up by both small- and large-scale group consultation. At least one major conference to debate the proposals should be held.

Annual or biannual reviews of the effectiveness and adequacy of the guidelines should be held in a conference/seminar type of setting. This should also be the forum for discussion of proposed changes. Proposals could come from any level of government or any public group.

"Alternatives" Magazine

Ontario's energy future requires a high level of public participation at both regional and provincial levels. Caution must be shown in decentralizing policy formulation to regional levels, for there would be a danger that province-wide or nation-wide problems would not be dealt with. Geographical decentralization might lead to a tendency to externalize costs even further and to push them off on the neighbouring administrative unit.

Local energy offices should function as information outlets and community resource centres, and as foci for articulating local viewpoints.

A provincial energy council would function as a planning, advisory, and co-ordinating body for energy policy in Ontario.

There should be ongoing funding and support programmes for public interest groups.

Dr. John Cartwright

There is need to ensure that more is done to arouse citizens in advance of the setting up of a participatory committee, probably utilizing both existing interest groups and geographical communities. This task probably should not be left to Hydro personnel alone, although it is hard to see where else the initial impetus can come from. The citizens representing various interests need an opportunity to meet together, independently of Hydro, for long enough to develop a sense of group consciousness and to make a sounding out of each other's views. Only then should they attempt to respond to any formulation of the group's terms of reference by Hydro. (It would be better for them to develop their own terms of reference in the light of the concerns, as they have determined them.) What is vital is that at this stage, when it is most vulnerable to manipulation, the group should be able to develop its own identity and goals free from direction by the agency over which it is supposed to be exercising some restraint. Both when it is formulating its terms of reference, and when it is considering specific problems within those terms of reference, the citizens' group needs access to sources of expert advice outside Hydro. In order to justify their substantial commitment of time to what must necessarily be an altruistic activity (in the sense that, if they are in fact serving as representatives of ordinary citizens with only a limited concern about a specific policy, there will be no significant personal benefit to them), the citizen participants must be convinced that what they decide is going to be considered. It would seem improbable, given Hydro's past record of relations with many sections of society, that this could be achieved by anything less than an assurance that they would have direct access to some body genuinely independent of Hydro as a final arbiter.

Grey County Federation of Agriculture

Massive re-learning programmes for the public should be undertaken by the province, with federal aid and support, so that people will understand better how adversely our future is being threatened by our extravagant and wasteful life-style.

Workshops

The foregoing is a cross section of views that were presented by individuals and organizations. There were also enormously useful contributions from the other input procedures – symposia, seminars, and workshops organized by the Commission. Of particular significance is the final workshop on decision-making and public participation, held at the Ontario Government Training Centre, Kempenfeldt Bay, Ontario. One correspondent, Rupert Ross, commented afterwards that he had "rarely seen such a diverse group work as well together". Dr. Arthur Porter, in his closing remarks at the workshop, noted the "commonality of basic philosophies, in spite of marked differences in details". The workshop was a productive undertaking that resulted in the interaction of people with diverse views but with the common goal of having the Commission make viable, common-sense recommendations. The following is a summary of the areas of common understanding that emerged from the workshop.

Findings

1. Energy decisions are political decisions and elected officials must be seen to be responsible for energy policy decisions. The political role must be strengthened.

2. Energy policy must be reviewed on a regular ongoing basis.

3. Electric energy planning must be integrated as a part of overall energy planning and must be considered broadly in the context of economic policy.

4. Institutional structures must be modified to allow for the development of an open, flexible decision-making process.

5. Legislative overlap should be eliminated so that the process will be decisive.

6. Structures and processes should be simplified as much as possible.

7. Some form of decentralized involvement in energy is inevitable and desirable in the future. A future role for local government was widely discussed and endorsed.

8. Public participation is a worthwhile and essential part of the decision process.

Conclusions on Institutions and Procedures

1. The energy policy aspects of energy planning must be the responsibility of the Minister of Energy.

2. There must be an energy policy strategy, and it should take the following into account:
   (a) the role of supply options including conservation
   (b) the degree of demand management
   (c) the degree of self-sufficiency
   (d) the supply contribution from various energy options
   (e) the rate and financial structures
   (f) the research and development priorities

3. An energy commission should be established that would report to the Minister of Energy and be the public arm of the Minister. It would have an advisory/listening-post responsibility. An existing agency should be used – probably the Ontario Energy Board or the Environmental Assessment Board. Through a public report, this agency would regularly and openly advise the Minister on:
   (a) the need for energy based on end-use energy requirements
   (b) the supply alternatives available to meet the needs
   (c) the timing of additional supply options
   (d) the procedural or legislative impediments to implementation

4. The report should be prepared on the basis of:
   (a) Hydro's annual load forecast and Hydro's interpretation of system requirements
   (b) independent forecasts/backcasts of electric and non-electric energy demands/needs
   (c) examination of alternative supply options
   (d) examination of demand management and energy conservation alternatives
   (e) examination of environmental impacts of supply options
   (f) full and fair public hearings

5. Local involvement in energy planning should be increased by providing improved opportunities for input from municipalities and public utility commissions and by providing an opportunity for these same agencies to have a role in energy education and as local energy suppliers.

6. Project implementation should be approved through the Environmental Assessment Act process. Duplicate legislation and hearings should be eliminated to enable the development of a streamlined process that meets the requirements for full and fair hearings. The process should include:
   (a) complete, convenient, and timely access to comprehensive information
   (b) adequate public interest funding
   (c) a balance of formal and informal hearing procedures

7. The Ontario Hydro mandate, represented by the Power Corporation Act, should be amended to give the Minister of Energy responsibility for the final determination of the amount of electrical load that is to be supplied. A further amendment might be necessary to remove uncertainty as to whether municipalities and industries can generate and transmit electricity.

APPENDIX D

Energy Education

The following is a paper on energy education prepared by Catherine Hunt – a staff member of the Commission. It is presented here because of the importance of education to future decision-making about the demand for and supply of electric power.

> However spontaneous it may appear, good education requires careful planning ... [which] implies purpose and a careful correlation between means and end.... Curriculum planning is a process that must be widely shared. Working within the boundaries of provincially and locally established purposes and priorities, those most aware of the children's needs and the community's expectations – parents, teachers, principals, supervisory officials, as well as the children themselves – must all be involved in the planning process in appropriate ways....
>
> Education in the Primary and Junior years, both in the home and in the school, is of paramount importance. The experiences of these early years mould the child's attitudes to learning and provide the basic skills and impetus for his continuing progress.

These sentences are from a document entitled *The Formative Years*, known as "Circular P1J1, Provincial Curriculum Policy for the Primary and Junior Divisions of the Public and Separate Schools of Ontario", produced by the Ministry of Education in 1975.

The concept of planning and the need for broad involvement in planning are shared by the fields of education and energy, or, more specifically in terms of this Commission's mandate, electric energy. The importance of planning and wise education for the future is clear in the statements on curriculum policy. There can also be no doubt about the importance of a well-planned and responsive curriculum – incorporating crucial energy concepts – for the grooming of responsible citizens for the future. Because society is undergoing a difficult transition, there is a need for the educational system not only to respond to problems and changes, but also to *anticipate* them, in order to make the transition as smooth as possible. If the young people of today are to be able to cope with tomorrow's problems, the tools they will need should be developed today.

An understanding of the nature of future options, choices, and goals is important for the planning of energy supply and requirements, and for the planning of education for the future. Futurist Earl C. Joseph stated:

> The future starts now, this moment, and extends forever. The future as viewed from today, any today, is made up of a multiplicity of possible *alternative futures* which we can move toward – with or without our control. These alternative futures can be considered as *planning horizons* from which we can select for the purpose of expanding our control over the futures we bring into fruition.[1]

In other words, the future is not something we should simply wait for and *predict*, but rather something that can be shaped, or created. E.C. Joseph has suggested that the part of the future over which we have the most control is the period five to 20 years ahead. It is thus important that an awareness of alternatives exists in order that an informed society can bring about change within this 20-year time frame.

Simon Nicholson, Chairperson of Art and the Environment at the Open University in Oxford, has pointed out:

> Not only does the past vanish but also *futures* vanish. Adults colonize the future through their monopoly of media, and children's futures thereby vanish ... the domination of media by adults has the effect of conditioning children to believe in a future which is based on the past and to believe that any changes to this model can only be initiated by chance or by experts.[2]

He emphasizes that:

> Futures thinking need not be confined to technological issues such as energy issues. Decisions in science and technology ultimately rely on human values and the kind of life-styles, culture, community and society that people want.[3]

Many of the problems of planning for the future result from our inability (really our lack of apparent ability) to step outside the present and view the future with creativity and imagination. Children, however, often have extremely interesting and enlightening perceptions of the future. For them, space, time, and change are inextricably interwoven. We must ensure that our educational system does not inhibit the development of these views of the future and, further, that it provides the tools, skills,

and supports that will assist these young people in the innovation and formulation of productive and challenging new roles for themselves.

Energy Education in Ontario: The Schools

The Ministry of Education

"The energy crisis" has triggered a response in the education system in Ontario in the last two years. The energy crisis is not just a problem of short supply and rising prices of conventional forms of energy; it also concerns the nature of the demand for energy, and the end-use applications of energy. There is no shortage of energy – just a rapidly decreasing stock of non-renewable forms, and a lack of appropriate technology for harnessing the bountiful energy derived from the sun. The Honourable Thomas Wells, Minister of Education at the time, wrote in 1978:

> It is imperative that our young people learn to make informed decisions about the use of energy in their lives. As a starting point, students must learn about energy in all its aspects. Equipped with such knowledge, they should begin to consider related values, the life-style they desire, and the life-style that is possible.
>
> Students in our schools today, and those who will follow in future years, will have to make decisions about energy and then live with the consequences of those decisions. The world of the future will be shaped by those decisions.[4]

The Ministry of Education feels strongly that energy should not be taught as a separate subject by energy specialists. Instead, it must be incorporated into the total school curriculum, and play an ongoing role in the student's whole learning experience.

Curriculum Guidelines. The Ministry of Education feels that it is responding to the need for energy education in the schools in a timely fashion – it is responding to the demand rather than initiating or anticipating it. The curriculum guidelines issued by the Ministry tend either to set the stage for the discussion of energy or energy concepts without necessarily mentioning energy, or to suggest energy as a topic for study and discussion, but not require it. For example, there is considerable emphasis in the primary and junior division on values education. The school is expected to provide the child with experience and opportunities that will allow him or her to:

> begin to develop a personal value system within a context that reflects the priorities of a concerned society and at the same time reflects the integrity of the individual [and]
>
> > become aware of the values that Canadians regard as essential to the well-being and continued development of their society – namely, respect for the individual, concern for others, social responsibility, compassion, honesty, and the acceptance of work, thought and leisure as valid pursuits for human beings [and]
> >
> > begin to develop a personal set of values by identifying value alternatives and their consequences, selecting personal values from the alternatives, internalizing the values selected, and acting in accordance with the values selected.[5]

The local school board and individual teacher are given considerable latitude in designing specific programmes, so whether or not energy will be dealt with in terms of a values perspective is up to them. Energy is suggested as a topic at the primary and junior levels only as one of the "concepts basic to science".[6]

At the intermediate and senior science levels energy is dealt with in a fairly traditional "force and energy" manner, although there are optional topics on "the wise use of energy". The study of environmental science, which can be dealt with either as a separate course or incorporated into other courses, provides additional opportunity for the discussion of energy. Energy is also suggested as a topic for discussion in geography programmes, but it is not compulsory.

Ministry of Education Energy Projects. There are two main thrusts to the Ministry's energy activities: the development of teacher aids and the organization of teacher workshops on energy; and encouraging and assisting in the development of practical energy conservation projects in Ontario schools.

Energy in Society is a resource guide that was prepared by the Ministry of Education (and funded by the Ministry of Energy) to assist teachers in the intermediate and senior divisions in stimulating energy awareness and an energy conservation ethic. It was written by a team of teachers, Ministry personnel, and consultants, published in 1978, and distributed to all schools in Ontario teaching grades 7 to 13.

This document represents a highly laudable effort to simplify and add meaning to the discussion of energy. The concept of energy is strongly tied to the individual's social responsibility:

> The ultimate goal of all activities in the sphere of energy conservation is the establishment of a new life-style – one that depends less on fossil fuels. This goal reaches every corner of an individual's life and will exert an influence on society far into the future.
>
> With such a broad goal in mind, teachers will probably rely on both extrinsic and intrinsic motivation: certainly both have a place.... More than external rewards are needed, however, to reverse a deeply ingrained way of life. For this, teachers must encourage attitudes of responsibility and sensitivity to the need of others. Intrinsic motivation is more difficult to establish, but valid solutions to most of our energy problems will be motivated by sound and enduring values.[7]

The document deals with energy and systems, space heating, electric energy, water, and foods, and contains many ideas and project suggestions. A second volume of *Energy in Society* was to be published in the spring of 1980, dealing mainly with alternate forms of energy. A similar resource guide designed for teachers at the primary and junior levels is currently being prepared. After these three documents are distributed, the Ministry intends to proceed with teacher workshops, seminars, etc., to fill the need for teacher training in this area, which has frequently been brought to the attention of the Commission.

The other ongoing energy activity of the Ministry of Education is the development of physical energy conservation programmes in the schools.

School Boards

There is a reasonable degree of decentralization in the Ontario school system in that the local school boards are expected to design courses of study and curriculum materials in accordance with the Ministry of Education curriculum guidelines. It was pointed out by the Jackson Commission that the effect of declining school enrolments within the various board jurisdictions means that an increasing number of boards may have to choose one of the following alternatives: "1) a reduction in its commitment to the development of curriculum, 2) the allowance of some compromise in its desired standards of direct education services to students, and 3) a reduction in the range of curriculum choices offered to students".[8] This factor in addition to the highly vocal demand for an education concentrating on "the three Rs" has raised some concern that the incorporation of a meaningful energy component into present curricula may be very difficult to achieve. A Ministry of Education official admitted freely that in times of financial restraint "soft subjects" are the first to disappear. The Commission on Declining School Enrolments in Ontario recommended that:

> School boards increase their co-operation with each other in the design of programs and development of curriculum materials. Regional officials of the Ministry of Education be instructed to provide their services in promoting and coordinating this cooperation on a regional basis and in some cases on an inter-regional basis.[9]

This recommendation may well be applied to the energy issue. Some school boards have already embarked on interesting energy programming projects, with varying degrees of success. Active co-operation between boards would certainly benefit all parties.

The School and the Classroom

In spite of all the guidelines, policies, and recommendations that are issued, it is ultimately the teacher who will decide what will be taught in the classroom, and how and when it will be done. And, in Ontario, the teaching of energy has been largely a matter of individual teacher initiative. Teachers who have undertaken an energy component in their courses have done so with an exceptionally high degree of enthusiasm and commitment. Several schools have entered into projects with the community by organizing energy forums and exhibits, undertaking primary research on energy use and attitudes, making films, having poster contests, etc. The young people involved in such learning experiences have participated intelligently and conscientiously. Every indication points to the need for the universal availability of such learning opportunities. The essential first step in this process is, of course, the development of teacher education programmes to assist the teacher in dealing with the complex subject of energy in a comprehensive and meaningful way. Energy is one of the key elements in ensuring a viable and satisfying future; it is crucial that teachers, who have such a vital influence on the development of young people, be able to translate these issues and concerns into an understandable form. Bertrand Russell wrote:

> The function of the teacher, however, is not merely to mitigate the heat of current controversies. He has more positive tasks to perform, and he cannot be a great teacher unless he is inspired by a wish to perform these tasks. Teachers are, more than any other class, the guardians of civilization. They should be intimately aware of what civilization is, and desirous of imparting a civilized attitude to their pupils.[10]

Teacher education in the area of energy should be intensified to this end.

Ontario Hydro

Like any corporation concerned with its public image, Ontario Hydro has been involved in extensive communications programmes over the years. There has been a notable shift from encouraging the consumption of electricity ("Live Better Electrically") to encouraging the conservation of electricity ("Wasting Electricity Turns People Off"). Ontario Hydro's public relations and education activities have included large advertising campaigns, an extensive information centre at the Pickering nuclear generating station, films on the corporation, electricity, conservation, and nuclear power, and, most recently, the hiring of a consultant to develop educational materials for Ontario teachers. The stated aim of these activities is, in the long term, to "help to ensure a high quality of participation in both project planning and the approval and decision-making process".[11]

In attempting to determine the programme requirements as perceived by the educational community, Ontario Hydro developed an Educational Advisory Committee for the Development of Information on Electrical Technology, Energy and Conservation. Committee members include representatives of the Ontario Science Teachers' Association, the Ontario Association for Geographic and Environmental Education, the Ontario Associational of Education Administrative Officers, the Ontario Teachers' Federation, the Ministries of Education and Energy, and several practising teachers and science consultants. No Ontario Hydro representative sat on the committee, and no representatives of renewable energy or anti-nuclear groups were invited to participate.

The committee approach was pursued because of the recognized need to develop credibility as the basis of the corporation's activities in the area of education. Ontario Hydro's Public Relations Division stated in a submission to the Commission:

> The co-operative approach and the earning of credibility are the foundations on which the program is built.... Hydro could not approach education with the request that it understand and appreciate the problems or benefits of the Corporation and that consequently education foist on its students the adoption of a sympathetic posture. Hydro could and did point out, however, that collectively the people of Ontario have some difficult choices to make and that understanding of the complexities of energy in Ontario is crucial to the continued development of the province.[12]

As a result of the committee's work and recommendations, the following projects have been undertaken by Ontario Hydro:

- Development of teaching aids on the topics "Introduction to Electricity" for grades 4, 5, and 6; "Energy and Conservation", also for grades 4 through 6; and "Nuclear Science and Technology", for senior high-school students.
- Production of 16 mm films. A 20-minute film entitled "Energy in Society" is being produced to supplement the Ministry of Education's resource guide of the same name.
- Professional development seminars, developed in co-operation with the Ontario Teachers' Federation and the Ministries of Education and Energy, held around the province.

Ontario Hydro's recent efforts in the field of energy education have been, on the whole, well received. The education packages are only recently available and have not yet been subject to large-scale classroom testing; consequently, a critical assessment is difficult. The criticisms directed at Hydro's activities emanate from general concerns over responsibility, objectivity, and the fine line that exists between education and propaganda. These concerns are discussed in a subsequent section.

Community Colleges (Colleges of Applied Arts and Technology)

The community college system has been in existence in Ontario for nearly 12 years, and has helped to fill an important role in the education system in the province. Its mandate specifies a dual function:

> (a) to meet the post-secondary educational needs of graduates from any secondary school program apart from those wishing to attend university
>
> (b) to meet the educational needs of adults and out-of-school youth, whether or not they are secondary school graduates

The colleges also fulfil a general educational role, with frequent workshops, seminars, exhibits, and forums that are open to the general public. The Executive Committee of the Heads of Technology of the Ontario Colleges of Applied Arts and Technology has stated:

> Like the society which they serve the colleges are continually undergoing change and seeking new directions. During the coming years change will, in the main, be due to demographic redistributions within the province and to a need to reexamine the relationship between "education for jobs" and the economy.[13]

In the past, the colleges have worked closely with potential employers in order to design programmes and train students in a mannner that is best suited to the actual requirements of the job market. As a result, the colleges have had a high degree of success in placing students in appropriate employment situations after graduation. In the area of continuing education, a wide variety of courses is available, either of a "general interest" nature or specifically intended to upgrade an individual's qualifications. In many communities, especially outside a large metropolitan area like Toronto, where there is a multiplicity of educational and cultural outlets, the community colleges have served to provide a focus for local community activities and initiatives.

A difficult task now faces the colleges, however, in their attempt to project future employment trends and implement programmes to meet those needs. The lead time required for the introduction of a new programme, including the time for conceptualization, approval, and implementation, can easily be five years. And yet in that period there may well be significant changes in the state or acceptance of a technology – especially with the increasing awareness of energy as a factor in production and development.

Although the college is usually in the position of preparing students for jobs just two years down the road, within a time frame that can provide only limited control over the future, the planning process within the college must be extraordinarily tuned to new developments and possibilities for the emergence of new employment options. The strong influence that energy will surely have on jobs and the economy in the future should be given due consideration in this process.

Many of the colleges of applied arts and technology in Ontario have responded remarkably well and in a variety of ways to the increasingly important role of energy. Among these are Algonquin College, Ottawa; Centennial College, Scarborough; Confederation College, Thunder Bay; Georgian College, Barrie; Humber College, Toronto; Mohawk College, Hamilton; and Sheridan College, Brampton. Their initiatives include the creation of an energy centre and energy library, running a series of energy seminars either free of charge or at a low cost on subjects ranging from provincial energy policy to building your own solar water heater, a proposal for a three-year programme on solar technology, a programme on energy systems technology, a programme on conserver life-style options, student-conducted experimental energy projects, and energy exhibitions and symposia.

The involvement of Swedish adult education associations in energy planning suggests an interesting direction for an extended role for Ontario community colleges. During the autumn of 1974 and spring of 1975, the Swedish government initiated and funded (to about $700,000) a series of study groups on energy. The mechanism used for these study sessions was the network of adult education associations, which in Sweden are tied to groups such as political parties and labour unions. The government also organized an "apolitical" group of experts to act in an advisory capacity. Approximately 80,000 people took part in the programme. The goal was to provide the Swedish government with grass-roots input on the direction that energy policy should take. Olaf Palme, who was then Prime Minister, said at the conclusion of the programme that "people have made it clear that they want to play a part in shaping the developments which will have such a profound influence on their lives".

Ontario's community colleges have both the organizational and technical capability to fulfil a similar function. There is widespread acceptance both of the value and ease of participation through decentralized institutions, and of the need for the broadest possible input into energy planning and decision-making. It is also important that a public participation process be mutually educational. Thus, the community college system would provide an excellent vehicle for broad, meaningful, public participation in energy policy-making. During the OCAAT presentation to the Commission, it was pointed out that "community colleges have finite resources, and sometimes, we think, infinite demands on what we can do".[14] It would therefore be desirable that the Ministry of Energy fund the community energy workshops in the colleges, in return for annual reports from these groups containing information and recommendations that will be useful to the government in the formulation of an energy policy.

Note on the Ontario Hydro – OCAAT Relationship.

Of the 65,000 full time post-secondary students in community colleges in Ontario, approximately 17,000 are enrolled in full time post-secondary programmes in technology. In the Commission's discussions with the deans of technology of the colleges, the need for co-operative programmes of study involving the colleges and Ontario Hydro, along the same lines as co-operative programmes conducted at the University of Waterloo, became very evident. A co-op education was described in these terms:

- It involves formal integration of productive work and employment.
- The work situations are developed by the training institution in consultation with employers.
- The work is productive and is paid for.
- Student progress is closely monitored.
- Evaluation is important.[15]

The benefits of such a programme would include the availability of experienced and mature potential employees and a lessening of Ontario Hydro's training load. The existing situation dictates that graduates of relevant community college programmes receive no "credit" for their additional education, and must undergo the same training by the utility that high-school graduates, with no relevant training in the area, receive. There is unnecessary duplication, with the publicly funded colleges and the public corporation performing the same basic education training function. Ontario Hydro should still be permitted to run its own training programme, of course, but certain elements of the programme could clearly be covered satisfactorily in a co-op programme run by the colleges. It appears that both the community colleges and the utility view such a co-op programme favourably and the indications are that such a change will occcur in the not-too-distant future. However, the application of institutional support and/or pressure for specific co-operation on this issue would help to overcome the initial inertia. It was stated during the OCAAT presentation that because of the current "no credit" situation for students graduating from community college programmes, a potentially serious problem exists:

> Students who are graduating from technology programs are getting quite good job offers from other segments of the industry and I think there should be concern that graduates simply will decide not to bother with Ontario Hydro.[16]

In summary, three points may be made about the role of community colleges in energy education:

- Ontario's community colleges are responding well, within their very limited means, to the need for broad education on energy matters.
- The role of the community colleges should be extended and formalized to facilitate annual local input into energy policy-making through the use of energy workshops funded by the Ministry of Energy.
- Co-op programmes should be instituted at the colleges of applied arts and technology to remove some of Ontario Hydro's staff training load.

The Media as an Alternative to Schooling

Today, society is dealing with the first school generation to have grown up under the pervasive influence of television. It is unquestionable that television has had an incredible impact on all aspects of our lives. The major challenge that must now be faced is in making the electronic media responsive to the real needs of society; to become popular educators as well as entertainers.

Ontario Educational Communications Authority

The Ontario Educational Communications Authority (OECA) was established in March 1970 as an independent agency of the Province of Ontario. Its specific mandate is "to provide educational opportunities through electronic and other media for Ontario's eight million residents". Ran Ide, past chairman of the OECA, said that this was "a formidable challenge, not only because it implies that there will be access, universal access, to the learning materials developed, but also that these materials will be of such character and quality as to stimulate, provoke and engage individuals who come from varying backgrounds, experiences and interests".[17] Canada's first full-time educational television station, OECA's Channel 19, began broadcasting in the Toronto area in September 1970. The Channel 19 signal is now relayed to London, Chatham, Kitchener, Sudbury, Thunder Bay, North Bay, Peterborough, Brockville, Sault Ste. Marie, Belleville, Kingston, Windsor, and Ottawa. In addition, the OECA produces programmes (over 2,000 each year), distributes them to schools and cable television systems through its videotape programme service, and markets them both across Canada and internationally.

The OECA is also developing the world's first user-oriented computerized indexing system for videotape information retrieval. This system will allow viewers to select the appropriate programme or programme segment for their particular needs from the OECA's entire library within seconds. This system will greatly facilitate the eventual introduction of a "dial-a-programme" access for viewers. The OECA is also investigating greater co-operation with local cable television systems, in order to respond more effectively to local requirements. The concept of "two-way television" has been developed through the establishment of five regional councils that advise OECA's Board of Directors of local needs as well as through the use of utilization seminars and workshops built around the programmes, opportunities for viewers to phone in and join discussions on some shows, and computerized voting through the use of push-button telephones.

OECA is funded mainly by an unconditional grant from the Ministry of Culture and Recreation, and receives some funding from the Ministry of Education for elementary and secondary school programming. Consistent with general education spending restraints in Ontario, OECA has also been subject to financial restrictions in recent years. Project-specific funding and co-production of programmes and series are two ways that have been employed to stretch the OECA operating budget. RCEPP, for example, provided $20,000 and expertise to OECA to assist in the development of the three-hour programme *Energy, Energy* which was initially broadcast in March 1976. The "Vista" science series currently being aired by OECA is a joint Canadian-American-British production, which, for a mere $20,000 input from OECA, has ample Canadian content. Such joint ventures should be encouraged. The Ministry of Energy is a prime candidate here.

"Vista"

Bell Canada has developed a new concept in two-way interactive information and communications. The experimental system, called Vista, provides on-demand access to information using a conventional telephone line and an adapted television receiver. The pilot trial of Vista, running through 1979, had 25 user terminals hooked up to the data-base control centre in Ottawa. If the results of the pilot project are satisfactory, a commercial Vista interactive information service could be launched by Bell Canada as early as 1981.

The potential for such a system is far-reaching. The ready availability of such a range of information, in a variety of formats and from a number of sources, would greatly facilitate effective participation, particularly in such complex and rapidly changing fields as energy. Education and the whole information-processing system would become much more responsive to immediate user needs.

Video-conferencing Via Satellite

Video-conferencing, or "two-way television", permits people in different locations to see, hear, and talk with each other simultaneously. A study undertaken in the United States recently sought:

> to evaluate – through actual demonstration – whether satellite video-conferencing, one particularly important new technology, can provide a new mechanism for informed dialogue between congressmen and constituents and as a result strengthen the legislative process in ways which are consistent with our representative democracy.[18]

This type of system would provide important new opportunities for an interactive education experience. Experts, or groups and individuals with common interests, could "hook up" to each other, over hundreds of miles, and share information. People in distant locations could participate in important events taking place in another location, thereby learning through meaningful experiences. The experiment in the U.S. involved four successful demonstrations: a question-and-answer session between a congressman and high-school students, a meeting between a congressman and local public officials, a hearing of a Senate subcommittee with public witnesses, and a meeting between a congressman and his constituents.

> Participants in the four demonstrations found that satellite video-conferencing helps congressmen reach people more effectively, increases citizen participation and feedback, saves time and energy of congressmen and constituents, and stimulates citizen interest in and understanding of the legislative process.[19]

Energy Education in the United States

The United States clearly leads Ontario in the development of meaningful and effective energy education programmes. The existence of a strong political commitment at the top of the political system has greatly facilitated the task of instituting energy programmes.

In 1976, the Federal Energy Administration contracted with Educational Testing Service (ETS) in Princeton to conduct a series of nationally represented energy education hearings in five different geographical regions of the United States. The report produced from these hearings, entitled "Content Analysis and Interpretation of Five Regional Hearings to Determine Current Status and Future Needs of In-School Energy Education", contains information and recommendations that are easily applicable to the Ontario situation.

It was apparent during the hearings that there was a fairly widespread belief that the schools had little real ability to influence their students, especially if what was being taught ran counter to the values prominently held by society. "Even though participants recognized that the development of human values and the acquisition of skills could be most effectively carried out during childhood, a large number of participants appeared to be genuinely concerned that the responsibility placed on the shoulders of educators was far too great."[20] The suggestion emerged many times, however, that the value of in-school energy education programmes and teacher training courses would be much greater if tied into general community education activities. In addition, the use of resources in the community – community groups as well as case studies and local experiences – would increase the appropriateness and significance of energy teaching and learning experiences.

The importance of developing a good understanding of the overall energy situation came through strongly from the hearings. "The most urgent need that must be met by future energy-education programs is the creation of an awareness of the energy problem – establishing a mind-set that will be receptive to instruction about the problem."[21]

And, further, "If energy education is indeed limited to developing the kind of attitudinal changes that produce immediate 'cause and effect' results, it is possible that only short-term goals of a superficial nature will be attained. Any long-range objections should include a thorough understanding of the scientific laws and principles that govern the universe."[22]

The information issue emerged as a major one during these hearings. The difficulties faced by teachers trying to obtain up-to-date, reliable information appeared to be based primarily on a communications problem: *What* is available, and *how* to obtain it. The establishment of a central information clearing house was recommended. Problems were also perceived with information produced by utilities, industry, and sometimes government, in terms of its approaches and assumptions. "Much of the material that comes from the energy industry is not trusted, even though some of it was said to be quite good. Similarly, materials published by the federal government also lack credibility."[23] Support was apparent for education materials produced locally, and funded by the Federal Energy Administration. The local element was viewed as crucial to achieving widespread implementation of energy initiatives. This relates to the fact that "children are more apt to retain what they learn if they are actually participating in an activity and if their interest is awakened by relevant applications of the materials and concepts".[24]

Another common theme was the need for an integrated energy education effort. It should be integrated across the grades, "so that learnings in the early grades are followed up, reinforced, and built upon in the later grades".[25] "Any subject content can be taught to children of any level of maturity provided it is presented at their appropriate level of understanding."[26] Energy education should be integrated into various disciplines – both natural science and social science. In addition, "The teaching of scientific facts and principles needs to be integrated with teaching about personal and social values that affect energy use."[27]

It was stated many times during the hearings that energy education to date had been largely a matter of individual initiative. Staff training would have to be extensive to achieve successful energy education, and this commitment would have to receive strong support throughout the educational hierarchy.

Issues and Problems

Education is a highly political and value-laden process. It is goal-directed. At its basic level, it seeks to produce a responsible citizen who can successfully interact with other people in society. But what do we mean by "responsible"? There are probably as many definitions for the term as there are people trying to define it. It depends very much on the individual's personal value orientation. Thus, what is taught in the classroom, and the way it is taught, will reflect a specific set of values, which may or may not coincide with experiences gained outside the classroom.

Can information be completely "objective" or "unbiased"? It is doubtful. The very inclusion or exclusion of certain facts when a talk, lesson, paper, or book is being prepared implies assumptions based on personal or institutional values. Objectivity is a matter of degree – it is not absolute.

One of the key issues that repeatedly surfaces in a discussion of energy education is the nature of the information that is presented. There is more than one side to any question, as the Commission must know after listening to four years of debate on various energy issues. Some arguments bear more weight than others, however, and the best way to arrive at a well-reasoned understanding of an issue is to hear all sides, and listen to all the facts.

The Commission has heard the argument that Ontario Hydro should not be in the business of education, because any programme would have inherent in it a particular value orientation and mind-set. Since Hydro is generally viewed as a highly reputable, official organization, the facts and opinions it communicates are often perceived as carrying considerable weight, and as constituting, in fact, the only logical view of things. But, as the inquiry brought out, the utility is not always right, and a critical perspective is useful.

It must be emphasized that Ontario Hydro and other energy producers do have useful information to impart – information that is essential to the formulation of an accurate understanding of energy in Ontario and in Canada. But a broader perspective is also needed, and the responsiblity for providing it must rest with the government. Adequate funding must be made available to government ministries, interest groups, local study committees, community colleges, and other energy-oriented organizations, to ensure that the subject of energy receives a fair and balanced handling.

Notes to Chapters

Notes to Chapter One

1. John F. Kennedy in preface to Theodore Sorensen, *Decision-Making in the White House: The Olive Branch and the Arrows.* New York, 1963.

2. Interest in electric power decision-making surfaced in the RCEPP's early public meetings. There were, of course, numerous submissions that suggested the retention of the status quo. For example: "I believe the siting of generating stations and transmission corridors is best left to the engineers who are required to provide alternate routes and sites and the economies of each selection."

Others suggested a broader role for Ontario Hydro, for example: "Ontario Hydro must become more active in the regular planning process of provincial, regional, and local planning agencies, and when commenting on official plans under review by the Ministry of Housing it should reveal its planning programs which will affect the land use within the area concerned. It must become more actively involved in explaining to local, regional, and provincial planning agencies its assessment of power needs, as well as actively participating in the preparation of land-use documents such as official plans."

Many others raised concerns about the adequacy of public involvement, the appropriateness of centralized decision-making, the inability to examine the assumptions of technical experts, the lack of a coordinated energy policy, and the appropriate institutions and procedures for making decisions. For example: "... all levels of government must provide responsible leadership in developing and implementing energy policy.

Such action by governments is essential, considering, in particular, the imminent imbalance between domestic petroleum and natural gas supply and demand, the rapidly rising costs of these fuels, and the critical scarcity of capital. We therefore recommend that all levels of government develop and issue clear public statements on their energy policies with reference to level of demand, adequacy of supply at reasonable cost, efficiency of energy utilization, and protection of the environment and public health."

Interest in the decision-making process prevailed throughout the RCEPP's public information hearings. It was during this stage that the government's interest in this subject was stressed by the former Treasurer of Ontario, the Honourable Darcy McKeough, when he addressed the RCEPP on June 9, 1976 in Kingston, Ontario. He stated: "I hope you will attempt to find some way to provide Hydro, the government, the citizens, and the power-users with greater flexibility than now exists." He went on with a request that the RCEPP "advise on the process [decision-making] that should be considered".

Ontario Hydro's concern was given increased emphasis when on November 19, 1976, at an RCEPP symposium on Ontario's electricity future, the former chairman of Ontario Hydro, Robert Taylor, spoke on "Planning the Electric Power System, or Snakes and Ladders". In this speech he referred to actions that extend the decision process as the "snakes" and those that reduce its length as the "ladders". His interest in this subject prevailed throughout the inquiry. Even in his final week as chairman of Ontario Hydro, Mr. Taylor wrote in the June 29, 1979, edition of *Hydroscope*: "A rationalization of all the hearings and other public participation procedures would be a big help and I do hope that the Porter Commission's final report will have some strong recommendations along this line."

3. It would be unfair to cite any one submission; consideration must be given to the spectrum of debate conducted before the Commission. Often, as indicated by exhibits 377-2, 392, and 174, citizens and interest groups displayed uncertainty, frustration, and confusion about Ontario Hydro's public participation programmes, about land-use policies and practices, and about project delays. At the same time, transcript references T143: 18682-18692, T239: 37850, and T241: 38176 illustrate how extensively counsel for Ontario Hydro, Bruce Campbell, attempted to clarify what Ontario Hydro perceived to be misunderstandings concerning its activities.

4. Evidence of global interest in improving the decision process in electric power planning is reflected in the numerous national and international commissions, committees, and task forces studying the subject. The issues they are studying are similar to Ontario's – lengthening lead times, increased uncertainty, and significant public reaction against advanced technologies. In Europe, extensive efforts have been made by governments to improve public understanding of scientific and technological matters relating to electric power developments. In Sweden, in 1974, a one-year programme of national discussion and debate on energy matters was initiated, involving 80,000 citizens in over 10,000 energy study "circles". Denmark and Austria, in 1974-5 and 1976-7, respectively, also undertook national energy information campaigns. And Germany, beginning in 1975, started a "Dialogue with

the Citizen" on national energy policy and planning. In the United States, New York, Minnesota, and California have been most noteworthy in their efforts to overhaul the electric power decision mechanisms to permit the development of more comprehensive, participatory but also streamlined processes. The Nuclear Regulatory Commission in the United States has undertaken numerous studies at both the state level and the federal level in order to eliminate overlap and delays. In Canada, many provinces including Manitoba and British Columbia have engaged in the restructuring of their electric power planning processes, particularly in the areas of rate review and long-range planning. Of particular significance to the issue of public participation in energy decisions is the work undertaken by the Organisation for Economic Co-operation and Development (O.E.C.D.) on public participation in decision-making related to science and technology which was the topic of a forum conducted by the organization's Committee for Scientific and Technological Policy, October 10, 1978.

5. See, in particular, the report by Gail Randall on the Commission's workshop held on February 22, 23, and 24, 1979, at the Province of Ontario Training Centre, Kempenfeldt Bay, Barrie, Ontario.

6. In Ontario there are a number of small utilities and some industries that generate their own power. The following is a list of these organizations.

- Privately owned companies

  Cornwall Electric

  St. Lawrence Power Co. – These privately owned companies supply the City of Cornwall as well as some rural customers. Not regulated by Ontario Hydro.

Municipal commissions

Sault Ste. Marie P. U. C. – Buys power from Great Lakes Power Corporation. Serves the City of Sault Ste. Marie. Rates regulated by Ontario Hydro.

Fort Frances P. U. C. – Power supplied by Boise Canada. Serves the Town of Fort Frances. Rates regulated by Ontario Hydro.

Iroquois Falls P. U. C. – Power supplied by Abitibi Pulp & Paper Company. Serves the Town of Iroquois Falls. Rates regulated by Ontario Hydro.

- Investor-owned companies

  Abitibi Paper Co. Ltd. – Serves part of the Town of Iroquois Falls and the Town of Smooth Rock Falls. Direct customer of Ontario Hydro.

  Boise Cascade – Supplies the Fort Frances P. U. C. with power. Direct customer of Ontario Hydro.

  Canadian Niagara Power Co. – Supplies the Town of Fort Erie. Direct customer of Ontario Hydro.

  Falconbridge Nickel – Supplies power to Falconbridge Townsite. Direct customer of Ontario Hydro.

  Spruce Falls Power & Paper – Supply power on request to Kimberly Clark for use at their plant in the Town of Kapuskasing up to 5,000 kW. Direct customer of Ontario hydro.

  Gananoque Electric Light & Water Supply Co. Ltd. – Serves customers in the Town of Gananoque. Direct customer of Ontario Hydro.

  Great Lakes Power Corporation – Serves the Town of Bruce Mines and the Village of Hilton Beach. Direct customer of Ontario Hydro.

  Inco Metals Ltd. – Serves former Town of Copper Cliff, former Town of Levack, former Town of Lively and Creighton Townsite. Direct customer of Ontario Hydro.

  Peninsula Utilities – Supplied steam-generated electricity by American Can. Co. of Can. Ltd., a direct customer of Ontario Hydro. Is a subsidiary of this Company. Serves the Town of Marathon.

  Campbell Red Lake Mines – A rural customer of Ontario Hydro serving part of the Improvement District of Balmertown.

  Dickenson Mines – A rural customer of Ontario Hydro serving part of the Improvement District of Balmertown.

- Municipal utilities with own generation

  Almonte
  Bancroft
  Campbellford
  Eganville
  Ottawa
  Pembroke
  Renfrew

Bracebridge
Orillia
Parry Sound
Peterborough

7. Energy Probe, in its document entitled "The Future's Not What It Used to Be" (p. 7), analysed Ontario Hydro planning as "representative of a mechanistic world view, a mistaken belief in value-free technology, trend-directed plans, functional and bureaucratic planning style, and adaptive planning decision criteria".
8. Ministry of the Environment submission to the Royal Commission on Electric Power Planning, "The Decision-Making Framework and Public Participation", December 1978, p. 7.
9. See, for example, Ontario Hydro's early submissions to the RCEPP – particularly documents SP 556 and the Preliminary Submission.
10. In a letter dated October 28, 1977, from J. Keenan, Executive Director, Division of Lands, Ministry of Natural Resources to Ronald Smith, Executive Director of RCEPP, re decision-making, it was commented that: "Decision-making with regard to power planning must fully understand the implications for its planning of the growing level and complexity of society's dependence on a finite land and water resource ... [and] the need for trade-offs to resolve land-use conflicts to be made openly, after consideration of all relevant facts and viewpoints, and of the long-term consequences of a chosen decision."
11. Lord Eric Ashby – Notes prepared for a seminar held by the RCEPP on March 30, 1979, on "Public Participation in Decision-Making", p. 1.
12. *Ibid.*, p. 1.
13. Task Force Hydro, *Hydro in Ontario: a Future Role and Place*, August 1972, p. 7.
14. Advisory Committee on Energy, *Energy in Ontario – The Outlook and Policy Implications*, vol. 1, December 19, 1972, p. viii.
15. Government must regularly reaffirm the positive stance it assumed in 1971 on energy matters. In the Throne Speech of the fourth session of the 28th Legislature, on March 30, 1971, it was stated: "The government is determined to assume the adequacy of our energy supplies for the future. It will ensure that the energy is used as efficiently as possible and that its use will not adversely affect the environment, health, or life. The government will strive to maintain choice between the various types of energy to match them with those uses for which they are best suited."

Notes To Chapter Three

1. The following extract from a research paper by Penny Evans, a Commission staff member, is useful in explaining the relationship between Ontario Hydro and the government:
Because the administration of the Power Corporation Act is assigned to the Minister of Energy, the Minister is the channel for accountability of Ontario Hydro to the Legislature – answering questions related to Ontario Hydro, and tabling Hydro's annual report. Testimony at the Commission hearings indicated that many such questions concern operational matters, and necessitate close staff contact between the Ministry of Energy and Ontario Hydro in supplying the required information. Staff exchange also includes "joint policy development" and interpretation by the Ministry of the impact of government policy on the Hydro corporation.
Many of the Orders-in-Council necessary under the Power Corporation Act are channelled through the Minister of Energy. Two important exceptions are those related to capital borrowings – normally sponsored by the Treasurer of Ontario – and those concerning approval to proceed with major projects – under the Environmental Assessment Act, the responsibility of the Minister of the Environment.
The Ministry of Energy in its testimony to the Commission suggested that, as a delivery agency of electric power and energy, Ontario Hydro might be considered as part of an "umbrella" Ministry of Energy responsible for all aspects of energy supply and demand in Ontario. By this model, the "Ministry Office" of the Ministry of Energy is responsible for the development and co-ordination of energy policy, with other agencies – the Ontario Energy Corporation, the Ontario Energy Board, and Ontario Hydro itself – being the operational branches of the Ministry responsible for specific aspects of policy implementation. (However, it might be noted that, unlike the Ontario Energy Board and the Ontario Energy Corporation, Ontario Hydro is not included in the budget of the Ministry of Energy.)
Communication between the Ministry Office and the Ministry's energy agencies is a two-way channel: for example, both the Ontario Energy Board and Ontario Hydro provide advice on matters within their spheres of expertise.
Witnesses from both the Ministry of Energy and Ontario Hydro emphasized that there exists a deliberate separation of the powers of Hydro and government. "Operational" matters are the prerogative of

Hydro and, except under extraordinary circumstances, the government does not interfere in the day-to-day planning and operations of the Corporation. The role of government is to provide a "policy framework" within which the corporation functions. The major present means for establishing this framework, are:

1. The Power Corporation Act, which provides for government appointment of directors, outlines the duties of the corporation, and specifies those actions requiring government approval.
2. Other legislation – for example, the Environmental Assessment Act and the Expropriations Act.
3. Although accountable to the Legislature (currently through the Minister of Energy), Ontario Hydro was perceived in past times as operating best at "arm's length" from government and within an economic mandate that excluded its use as a tool of social and economic policy except that indirectly accruing from the availability of low-cost electricity. Like most publicly owned utilities it was also seen as being largely self-regulating. However, it has recently increasingly been drawn into uneasy closer relationships with government planners and decision-makers, and subjected to proliferating reviews (generally producing advice with no clear end-point to the process).

Despite attempts to avoid bureaucratic or political involvement in day-to-day operational decisions, government approval of specific actions as required by law has extended to "approval in principle", "approval to proceed with public participation", and other approvals additional to the assigned responsibility of government. Further, broader involvement of government in planning (as opposed perhaps to day-to-day operations) has occurred because of the nature of "policy directions", the acceptance of advice offered by review agencies, and the more explicit involvement of government in specific choices related to system expansion. Consequently, there is public confusion about who makes the "final" decision about particular aspects of Hydro plans, and on what basis the trade-offs are made.

2. The public participants who appeared before the Commission came from a broad cross-section of Ontario society. Even so, their collective input was valuable to the work of the Commission. It is useful to reflect on the views expressed by W.J. Ramp and Ted Schrecker in their January 1978 brief, page 11:

> The term "public interest group" is probably a misnomer. Most groups normally referred to in that way would not claim to represent a unified public interest; certainly not to represent the views of a majority of the general public. But do they have to?
>
> We think not. The function of such groups is rather to articulate viewpoints which are opposed to those of organizations with a very high level of political resources, organizations (like Ontario Hydro; like AECL) which are usually dominant in the process of making decisions about energy.

3. Task Force Hydro, *Hydro in Ontario – A Future Role and Place*, Report Number One, August 15, 1972, p. 47.

4. "The Management Board of Cabinet, Agencies, Boards and Commissions in the Government of Ontario", June 1974, p. 67.

5. *Ibid.*, p. 70.

6. Royal Commission on Financial Management and Accountability, *Final Report*, March 1977, p. 330.

7. *Ibid.*, p. 332.

8. Ministry of Energy, "Exhibit to the Royal Commission on Electric Power Planning", July 1976, p. 17. See also the Ministry of Energy Act, section 8.

9. Advisory Committee on Energy, "Energy in Ontario: The Outlook and Policy Implications", vol. 1, December 19, 1972, p. i.

10. Task Force Hydro, *Hydro in Ontario – A Future Role and Place*, Report Number One, August 15, 1972, p. 30.

11. Testimony to the Select Committee on Hydro Rates, November 19, 1975.

12. See, for example, D. Paul Emond, "Environmental Assessment Law in Canada", Emond-Montgomery Limited, Toronto, 1978.

13. The constant assumption has been that Ontario Hydro is governed by these by-laws. Recently, as part of the continuing struggles about the Bruce-to-Milton transmission line, the Town of Halton Hills made a motion in the High Court that ultimately challenged this assumption, but the motion was dismissed on procedural grounds.

14. Ontario, "White Paper on the Planning Act", May 1979, p. 45.

15. The Commission's *Interim Report on Nuclear Power in Ontario*, 1978, p. 163.

16. In correspondence from R.W. Blackburn, Secretary to the Board, to Ronald Smith, Executive Director, Royal Commission on Electric Power Planning, on April 18, 1979, relating to the Commission's

Interim Report, it was indicated that relative to such agreements "we [AECB] would make the provincial environmental assessment approval a prerequisite to the consideration by the AECB of site approval. We foresee no impediment to attaining the co-operation necessary."
17. In the correspondence mentioned in Note 16, it is indicated that "the difference between U.S. and Canadian practice is that we neither suggest nor specify detailed design. We do, however, specify detailed design standards such as ASME codes. It should also be noted in connection with U.S. practice, that the door is not closed on alternatives to the suggested design."
18. The three advisory committees of the AECB are:
    1. Advisory Committee on Security
    2. Advisory Committee on Radiological Protection
    3. Advisory Committee on Nuclear Safety.

Notes to Chapter Four

1. Pat Daunt of the Concerned Farmers of the United Townships, RCEPP transcript, p. 18480.
2. Treasury, Economics and Intergovernmental Affiars. Submission to RCEPP Information Hearings, April 8, 1976, p. 20.
3. *Ibid.*
4. M. Nastich, Vice-President, Resources, Ontario Hydro, debate stage hearings.

> Environmental Assessment is another process added to a series of existing processes rather than a process that has been rationalized with existing processes.

5. During the RCEPP inquiry many intervenors endorsed the improved opportunities for public participation in electric power planning. However, there were also concerns, as noted in the brief to the RCEPP by W.J. Ramp and E. Schrecker (RCEPP Exhibit 400, p. 4):

> Avenues of public participation (like Royal Commissions, committee hearings, etc.) tend to involve *ad hoc* formulations of problems, dealing with a specific issue or range of issues and providing little opportunity for continued participation. Once committee hearings or the deliberations of a Royal Commision are over, they're over. The public has little chance to follow up on its interventions at a later stage (presumably implementation) of the policy process....
>
> Intervention by public interest groups at the various stages of the existing public participation structures is far less coherent and comprehensive than it could be. For one thing, the multiplicity of avenues for participation demands a high level of resources if a group is to participate effectively at all points. Failure to do so results in a spottiness of presentation that is not the "fault" of the groups in question, nor in any way indicative of their "unrepresentative" nature, but is the result of a structural characteristic of the system....
>
> Decision-making now suffers from a problem of geography. Despite travelling hearings and public forums (which are, in themselves, eminently worth while), it is too easy for people who are not urban, not part of the Windsor-Montreal industrial corridor, to feel that their interests are being ignored or minimized in the process of energy policy planning. And, despite conscientious efforts to the contrary, the apparatus for public input into the policy process is thoroughly Toronto-centred.
>
> This distortion has effects both on the way Ontarians perceive energy policy, and on the substantive outputs of the policy process.

6. RCEPP transcript, vol. 64, p. 7966.
7. See RCEPP transcript, vol. 155, pp. 21416-17, where a Ministry of the Environment witness suggested that the problem of planning in Ontario is not the extent of planning nor the number of agencies carrying out planning, but rather the integration of all the planning procedures.
8. O.M. Solandt. "Transmission". Report of the Solandt Commission, a public inquiry into the transmission of power between Lennox and Oshawa, April 1975, p. 4.
9. The concept of "fixing the future" was reiterated to the RCEPP on numerous occasions. Those suggesting the use of alternate, renewable technologies often proposed targeting on an energy future in, say, 2025 and then designing our research, capital expenditure and infrastructure development to meet this target. In the same sense but for a completely different energy future, M. Nastich, a vice-president of Ontario Hydro, suggested: "It is important at some stage, that we set a direction and a pattern and recognize, within limits, it cannot be varied too much without heavy cost." (RCEPP transcript, p. 31544)
A contrasting view and one the writer is inclined to support is an iterative process proposed by the Ministry of the Environment, which noted: "Decisions should be made on the basis of a continuous study and review of the widest possible range of alternatives. It is advisable not to consider the form of

energy supply for an individual purpose as given,; rather it is necessary to compare alternative methods, including alternative forecasts of energy and technology, of providing whatever services are deemed to be important for the well-being of the people of Ontario." (Ministry of the Environment submission, Conventional and Alternate Technology, debate stage hearings, RCEPP, p. 31)

10. Ian Connerty, "Local Involvement in Energy Planning". A research report prepared for the RCEPP, February 1979, p. 4. This paper was presented at a Commission workshop in February 1979. It contains an extensive discussion covering most of the arguments of the advocates for decentralized electricity planning and local energy supply.

11. Task Force Hydro, *Hydro in Ontario – An Approach to Organization*, Report Number Two, December 1972, p. 66.

12. Letter from J. Keenan, Executive Director, Division of Lands, Ministry of Natural Resources, to Ronald Smith, Executive Director, RCEPP, with respect to decision-making, October 28, 1977.

13. D. Drinkwalter, Ontario Hydro. RCEPP transcript, p. 31495. It should be noted that the Commission also found difficulty in encouraging public participation on hypothetic (conceptual) plans. Participation and involvement were much greater when the Commission reviewed specific projects in southwestern and eastern Ontario.

14. In RCEPP Exhibit 400, W. Ramp and E. Schrecker argue persuasively for greater public involvement in energy planning. At the same time, on the subect of decentralizing decision-making, they note that "a number of very real problems must be acknowledged. For instance, if much of policy formation were decentralized to regional levels, there would be a danger that province-wide or nationwide problems would not be adequately dealt with. If anything ... geographic decentralization might lead to a tendency to externalize costs even further ... to push them off on the neighbouring administrative unit."

15. Ontario Hydro reply to the RCEPP interrogatory on the usefulness of SEPR-type studies in the future.

16. M. Nastich, Ontario Hydro. *Op. cit*, RCEPP transcript, p. 31544.

17. M. Nastich, RCEPP transcript, p. 31544. A similar view on the probability of a regular public review was given by the Honourable Dennis R. Timbrell, then Minister of Energy, in his comment that "public participation in planning procedures is now so firmly set that whether it will be an OEB-style review of the generating program ... or Solandt/RCEPP-style, there will be some kind of public forum on a regular basis". RCEPP transcript, p. 7730.

Notes to Chapter Five

1. Explanatory notes to Figure 5.1 – the interim approval process for new generation and associated incorporation facilities – issued jointly by the Ministry of Energy and the Ministry of the Environment, November 16,1977.

Ongoing System Studies

The flow chart [Figure 5.1], left of vertical dotted line, defines Ontario Hydro's "ongoing system studies". By this is meant the constant activity of assessing:

- the system's capability and reliability
- the requirements for new system facilities
- the availability of water, oil, coal, gas, uranium, etc., for use in the generation of electric power
- the technological "state of the art"
- economic and financial aspects
- timing considerations

The result of these ongoing system studies is a broadly conceived, long term system expansion program which is updated from time to time.

Specific Plans – Review and Approval

As shown on the flow chart, right of vertical line, from the system expansion program specific plans are derived for adding new power generation facilities within a specific period of time. These specific plans require the authorization of Ontario Hydro's corporate management and/or Board of Directors, and the approval of the government of Ontario, at various stages, as shown on the flow-chart in sequence of process steps over time.

Stage I

- Ontario Hydro staff project a requirement for new power generating capacity to be added, within a specific period of time, as part of a long term system expansion program.
- Ontario Hydro's corporate management authorizes the undertaking of a study to identify feasible alternatives for providing such new capacity.
- Ontario Hydro staff carry out studies to identify feasible alternatives. Such studies include community profile surveys by consultants to prepare for and organize the subsequent public participation process.

Stage II

- Ontario Hydro publishes a report describing:

  the projected requirement for new generating capacity

  the studies of feasible alternatives

  plans for public involvement in the environmental assessment process

Ontario Hydro, through further evaluation of feasible alternatives, with the involvement of citizens' committees, identifies the preferred alternative and begins the documentation of their environmental assessment.

Stage III

Ontario Hydro issues a report on the "need" for the new generation required. The definition of "need" will encompass:

overall future requirements for additional electric power supply (using same data from the current system expansion plan as would the subsequent environmental assessment document)

new generation and associated transmission requirement, relating specifically to a particular period

timing of new capacity

capital financing

primary energy source (fuel mix)

- After review by Ontario Hydro's Board of Directors, the "need" report will be forwarded to the Minister of Energy at least five months before the anticipated date of Ontario Hydro's submission of the environmental assessment document (see below under Stage IV).
- The Minister of Energy will review the "need" report, solicit comments from other Ministries and, subsequently, make a recommendation, via the Cabinet Committee on Resources Development, to Cabinet on the statement of "need". The Minister's recommendation will take into account the relevant findings of the Royal Commission on Electric Power Planning and other bodies.

Cabinet will consider policy concurrence.

- Policy concurrence by Cabinet on "need" will mean agreement in principle for all aspects encompassed in the definition of "need" as contained in the "need" report by Ontario Hydro; it will not be site or project specific agreement. The policy concurrence shall be made public.
- The Minister of Energy will notify Ontario Hydro of the Cabinet's policy concurrence.

Stage IV

- Upon receiving notice of the Cabinet's policy concurrence from the Minister of Energy, Ontario Hydro will complete the preparation of the environmental assessment document describing the evaluation process, and including the supporting report on "need" as agreed to in principle by Cabinet, as well as the notice of policy concurrence by Cabinet.
- Ontario Hydro will submit the environmental assessment document to the Minister of the Environment.

The environmental assessment document will be processed in accordance with the requirements of the Environmental Assessment Act.

2. See Appendix C and, in particular, the comments relating to long-range planning. Also see the report on the RCEPP workshop on decision-making held at Kempenfeldt Bay, Barrie, Ontario, February 22-4, 1979. In that report it was emphasized that electric energy planning should be a two-stage integrated process involving a policy formulation phase and a project approval phase.

3. The complexity of values that must be accommodated in the planning process was acknowledged in the Energy Probe document, "The Future's Not What It Used To Be" (RCEPP Exhibit 396, pp. 2-3): where they state: "If we disagree or are dissatisfied with the products of the planning process – be they nuclear power, pipelines, solar energy or even conservation – it is because we implicitly disagree with

the nature of the process that led to their development. The planning process... is a complex array of values, facts, assumptions, beliefs, and methods."

4. Throughout the Commission inquiry a recurring theme was the need for government policy direction on electric power developments. A selective illustration of this theme will be found in Appendix C.

5. The consolidation of electric power regulation into a "single-window" approach is consistent with the programme of regulatory streamlining that is now being undertaken in the province. The concept of a single-window regulatory system was proposed by many intervenors at the RCEPP hearings, but for a concise argument for such consolidation reference should be made to the submissions by the Canadian Electrical Association (RCEPP Exhibit 398) and the Electrical and Electronic Manufacturers Association of Canada (RCEPP Exhibit 394).

6. The majority of the expertise of the commission should be hired on a contractual basis. However, we are of the opinion that an accumulation of expertise is also essential. Therefore, the commission should have its own resource, particularly in the areas of system planning, environmental planning, pipeline engineering, rate-setting and economics. Probably only one person would be required in each of these areas in order to co-ordinate research and data accumulation which would benefit the commission, not only in its general policy functions but also in the consideration of individual facilities.

7. A submission by the Ministry of Energy setting out Ontario's long-range energy requirements and supply alternatives should be mandatory. This conclusion is consistent with a position the government of Ontario, through the Ministry of Energy, put forward to the National Energy Board (NEB) in 1978. Specifically, the NEB in its 1978 report noted "Ontario also held the view that the federal government, and specifically the Department of Energy, Mines and Resources, should be a submittor at energy inquiries being conducted by the Board." (National Energy Board, "Canadian Oil Supply and Requirements", September 1978, p. 164.

8. California Energy Commission, "Power Plant Siting Policy Paper". November 1978, p. 8.

9. Consideration of individual projects by the EAB without the benefit of accumulated knowledge on the electric power system would lead to incremental rather than holistic decision-making on a project-by-project basis.

Charles E. Lindblom in 1963 suggested: "Because incremental decision-making is remedial and serial, it takes advantage of the frequency with which we find ourselves agreeing on what we are against, even though we cannot agree on what we are for." (David Braybrooke and Charles E. Lindblom, "A Strategy of Decision", New York: The Free Press of Glencoe, 1963, p. 137.

Commenting on Lindblom's material, M. Rowan, now Deputy Minister of Energy, wrote in an article entitled "A Conceptual Framework for Government Policy-Making", published by Canadian Public Administration, 1973: "Incremental decision-making focuses on the present and the familiar rather than on the future and the unfamiliar. Moreover, what is established as a policy objective is derived in large part from an inspection of means. The incrementalist chooses as relevant objectives only those worth considering in view of the means actually at hand, or likely to become available."

10. The commission should have the independence to draw on expertise from many sectors of government. The Ministry of Environment staff, particularly in the Environmental Approvals Branch, has devoted considerable time to developing knowledge and understanding of electric power planning matters. This capability should be available to the commission and should be used in a similar manner to the way the Environmental Assessment Board uses the expertise of this Ministry.

11. Harry J. Boyle, former Chairman of the Canadian Radio-Television Commission (CRTC), in a speech to the Alumni Association of the School of Public Administration, Queen's University, Kingston, Ontario, November 1978, made some useful comments about the policy-making functions of the CRTC.

> [The CRTC] did make policy. There's no doubt about it, but no policy was enacted until it had been exposed to the public hearing process. Provincial ministers and premiers, municipal officials, members of Parliament, members of special groups and interested members of the public – all appeared at one time or another.
>
> ... In all areas of regulation there's a feeling that policy directions must come from the party in power, and this is visible in the examples I have quoted. I am not certain that the feeling is as deep-rooted with members of Parliament as it is with departmental officials concerned and some members of Cabinet.
>
> The reason given is that regulatory agencies, while necessary to discharge routine duties such as adjudicating on competing interests, are no longer the proper places for the discharge of policy. Departments have grown and now embrace formidable talents in research and planning. It is only

natural that they desire to be the policy advisors in their areas to members, the Cabinet and government.

On the other hand there remains the fact that politicization can be hazardous and it has a tendency to thrive unless the process of policy-making is exposed to the public.

The thrust of technology, the vigor of local and regional development, new political approaches, and the increasing difficulty of centralized planning all create problems in administrative direction.

Members of Parliament and provincial governments are increasingly suspicious of policy created by government departments and then promulgated by order-in-council directives.

He further suggested:

Careful consideration should be given before the "independence" is stricken from any agency. This is a time when credibility with the public is absolutely essential. Nor should they be staffed as if they were Valhallas for tired, political warriors.

I am also dedicated to the principle of open "public hearings". They don't simply happen. You must constantly work at keeping them open for public intervention. That means as well finding ways of encouraging public participation to counterbalance vested interests with sophisticated resources of advocacy.

Let it be understood that no matter how an agency is changed to accept Cabinet direction, it is virtually impossible to render many decisions, even routine ones, without policy implications.

... As to direction by a Minister or the Cabinet, none can deny that a government has a right to develop policy. I would suggest that there can be no quibble when policy has been debated in the House of Commons. However, when government departments develop policies that are not tabled by the Minister for House debate, they should be forwarded to the agency involved for public hearing. The agency must then report on its findings to the Governor-In-Council, which will have the prerogative of accepting in whole, accepting with revision, or simply adapting the original.

This is vital.

I do not deprecate the input of experts. I suggest it must be balanced by public reaction. It's relatively easy in a technologically oriented world to forecast potential – but extremely difficult to predict how the public will react to the technology.

12. Of necessity, some limitations will be imposed on the entire process and presumably some very small facilities will be omitted. The way to impose this responsibility is to require approval, or modification, or rejection, of the decisions of the proposed commission.

13. The Economic Council of Canada in the Synopsis and Recommendations Report on Responsible Regulation, November 1978, p. 19, made the following comments on appeals:

Perhaps the strongest argument *against* cabinet appeals is that they come into play too late in the regulatory decision-making process. A decision has been made by an SRA [Statutory Regulatory Agency] after a full public hearing in which the issues have been developed, often at great expense to the parties to the application and other interested groups, and a reasoned decision has been made. The outcome of an *ex post facto* appeal to the Cabinet is unpredictable and may have the appearance of being political in nature, which indeed it may be. It may fairly be argued that such appeals offer undesirable opportunities for politically influential groups to exercise pressure to their own advantage. Moreover, ultimate accountability for appeal decisions by the Cabinet is more theoretical than real, for the Cabinet can decide whether or not to hear an appeal. It is a form of "discretionary accountability". A government dealing with an appeal acts *in camera*; not all those affected by, or concerned about, the outcome may be able to make submissions; those who may and do make submissions are not entitled to see any other submissions; and departments may make confidential submissions on issues that were not raised at the public hearing. In short, the procedures involved in a Cabinet appeal uncomfortably recall for some those of the notorious Star Chamber in England, which was abolished more than three centuries ago.

14. The requirements that are being suggested are not new in Ontario. Such requirements for reasons are now contained in the Environmental Assessment Act.

15. Both the Royal Commission on Financial Accountability and the Economic Council of Canada discussed directives in their reports made in 1979. Since their proposals are much the same, only the recommendations of the Economic Council will be cited:

(i) When the government believes that a Policy Directive is required, it shall request a report on the matter in question.

(ii) The regulatory agency would receive representations, either through submissions or at public hearings, on the proposed policy.

(iii) The agency would present a public report with recommendations to the responsible minister. (iv)

The Governor (or Lieutenant Governor) in Council, on the recommendation of the responsible minister, may accept in whole or in part, or reject completely the findings and recommendations of such a report.

(v) The policy decided upon by the Governor (or Lieutenant Governor) in Council shall be transmitted to the agency as a Government Directive.

(vi) The Policy Directive shall be published in a gazette and laid before the legislature.

(vii) Policy Directives would apply only to general policy matters and should not be issued once a statutory regulatory agency has begun proceedings in a specific case where such a directive is to be applied to that case.

(viii) Under certain conditions, these procedures may be too cumbersome. For example, in the event of an urgent matter requiring a policy directive, there could be a provision waiving the requirements of steps (i) to (v). Any such compression should be exceptional and would require appropriate ministerial justification to the legislature. (An Interim Report by the Economic Council of Canada, "Synopsis and Recommendations, Responsible Regulation", November 1979, p. 21.)

16. A review of the RCEPP transcript index clearly indicates that very few intervenors came forward as interested and concerned citizens. Approximately 90 per cent of the witnesses were associated with groups, associations, commercial organizations or government institutions.

17. RCEPP procedures for public funding, dated February 8, 1977.

1. Funds awarded to a recipient should be used only for the objectives and purposes specified in the application and agreed to by the Commission, and should be limited to research, office and travelling expense and necessary professional or consulting services.

The scale of fees paid for professional services should not exceed the applicable or most appropriate scale, if any, recommended by the governing body for that profession.

In respect of legal fees, recipients are free to secure and pay for legal fees on a solicitor- and client-basis, but having regard to the limited availability of funds and their being provided from public sources, recipients should attempt to secure legal services in a range corresponding to the party and party-scale in Tariff "A" for The Supreme Court of Ontario.

2. a) Funding will not be paid to cover attendace at a hearing or meeting unless authorized by the RCEPP. b) With the agreement of the Commission, funding can be used to cover the presentation of a submission or active participation at a public hearing.

3. It is a condition of receipt of funding by any recipient that the Commission may publish or otherwise distribute or make available to the public at the Commission Library or at any regional information centre, any presentation, submission or documentary material prepared by or on behalf of that recipient, the cost of which has been met, in whole or in part, from the funds provided. Copies of that presentation, etc., should be forwarded to the Commission. The cost of making additional copies available to the public shall be borne by the Commission.

4. Where the cost of any project or material exceeds the amount provided by the funding programme, the excess is the responsibility of the recipients, who are responsible for the completion of the material for a project within the approved amount.

15 per cent of the approved funded amount will be paid to the recipients upon approval of an approved application and upon the Commission being satisfied that the applicant will provide appropriate means of audit. The balance will be paid periodically over the period required to complete the project with the last payment to be made after receipt of the submission. Progress reports must be submitted to the Commission outlining the status of the project – these need not be lengthy, but must be concise.

6. If for any reason a project is not completed, further payments by the Commission will cease and the incomplete work is to be the property of the Commission and turned over to the Commission forthwith.

7. Five copies of the presentations or submissions plus one set of background or working papers are to be delivered to the Commission three (3) weeks prior to their formal presentation to the Commission at the appropriate stage of the Hearings.

Notes to Appendix D

1. Earl C. Joseph, "What Is Future Time?", *The Futurist*, August 1974.

2. Paper copyright by Simon Nicholson entitled "No Vanished Futures", based on first findings from the *Community Participation by Children in Futures Project.*

3. *Ibid.*

4. *Energy in Society: a Resource Guide for Teachers*, published by the Ontario Ministry of Education, 1978, preface.
5. "The Formative Years", Circular PIJI, Ontario Ministry of Education, 1975, p. 20.
6. *Ibid.*, p. 22.
7. *Energy in Society*, p. 3.
8. *Final Report of the Commission on Declining School Enrolments in Ontario*, October 31, 1978, p. 96.
9. *Ibid.*, p. 97.
10. Bertrand Russell, *Unpopular Essays*. London: G. Allen and Unwin, 1968, p. 109.
11. RCEPP Issue Paper No.8, "The Decision-Making Framework and Public Participation", chapter 3, p. 1.
12. RCEPP Exhibit 408, p. 2.
13. RCEPP Exhibit 381, dated May 1978, pp. 2-3.
14. OCAAT presentation to RCEPP, January 10, 1979, RCEPP transcript, p. 37992.
15. OCAAT submission to RCEPP, RCEPP Exhibit 381, p. 4.
16. OCAAT submission to RCEPP, RCEPP transcript, p. 37967.
17. "OECA – Another Way to Learn", information booklet produced by OECA, p. 4.
18. "Video-conferencing Via Satellite: Opening Congress to the People". Summary report by Fred B. Wood *et al.* Washington, D.C.: George Washington University, p. 9.
19. *Ibid.*, p. 7.
20. "Content Analysis and Interpretation of Five Regional Hearings to Determine Current Status and Future Needs of In-School Energy Education", p. 6.
21. *Ibid.*, p. 19.
22. *Ibid.*, p. 8.
23. *Ibid.*, p. 18.
24. *Ibid.*, p. 6.
25. *Ibid.*, p. 17.
26. *Ibid.*, p. 20.
27. *Ibid.*, p. 17.

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